TANK CLOSURE REPORT



ELEMENTIS PIGMENTS INC. 1525 WOOD AVENUE EASTON, PENNSYLVANIA

Prepared for:

Elementis Pigments Inc. Wycoffs Mill Road Hightstown, New Jersey 08570

Prepared by:

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14 January, 2002 3576201





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1.0 INTRODUCTION

This Tank Closure Report documents the underground storage tank system closure and removal activities conducted at the Elementis Pigments Inc. facility located at 1525 Wood Avenue, Easton, Pennsylvania. A site location map is provided as Figure 1. The project involved the decommissioning and removal of two 15,000-gallon No. 4 fuel oil underground storage tanks (USTs) and associated piping and valve vault. Site assessment activities were completed following UST removal activities. Soil sampling was conducted to confirm the removal of petroleum impacted soil and groundwater sampling was conducted to determine if the shallow groundwater was impacted by the operation of the UST system. This tank closure report was prepared by Langan Engineering and Environmental Services, Inc. (Langan) for Elementis Pigments Inc. (Elementis). The work completed for this project was performed in accordance with the Pennsylvania Department of Environmental Protection (PADEP) Closure Requirements for Underground Storage Tanks Systems document, effective 1 April 1998 and the PADEP's Land Recycling and Environmental Remediation Standards Act, revised 24 November 2001.

1.1 Objective

The objective of this project was to remove two 15,000-gallon No. 4 fuel oil UST's and associated piping and valve vault, conduct required soil and/or groundwater remediation activities, and to complete an assessment of the soil and groundwater quality surrounding the UST system.

1.2 Scope of Services

The scope of services completed by Langan included:

- Contracted B & F Petroleum of Reading, Pennsylvania to complete the UST system decommissioning and removal of the two 15,000-gallon No. 4 fuel oil USTs and associated pipe runs.
- Conducted technical oversight of the UST system removal activities, soil and groundwater remediation, and backfilling activities.
- Collected post-excavation soil samples to document the complete removal of petroleum impacted soil surrounding the UST system.
- ◆ Collected groundwater samples within the excavation to determine if the shallow groundwater has been impacted by the former operations of the UST system.
- Collected waste characterization soil samples for proper disposal of petroleum impacted soil.
- Coordinated soil disposal approvals, loading and transportation of all impacted soils to R3 Technologies in Morrisville, Pennsylvania.
- Submitted all samples to Wastex of Pottstown, Pennsylvania, a PADEP certified laboratory.

 Prepared this Tank Closure Report documenting the results of the tank removal and site assessment activities.

2.0 SITE DESCRIPTION

The site is located at 1525 Wood Avenue, Northampton County, Easton, Pennsylvania. The facility is situated approximately 400 feet north of Pennsylvania State Route 22. A site location map is provided as Figure 1. The facility consists of several industrial buildings and other structures used in the production of pigments, specifically, iron oxide. The remainder of the property consists of asphalt, gravel and wooded areas. Bushkill Creek flows adjacent to the site to the east, and Spring Brook flows through the site. A site plan is provided as Figure 2.

3.0 REGIONAL AND SITE GEOLOGY

3.1 Regional Geologic Setting

The subject site is located within the Great Valley Section of the Ridge and Valley Physiographic Province according to the Pennsylvania Department of Conservation and Natural Resources Physiographic Provinces Map of Pennsylvania, 2000. This province is characterized by very broad valleys with low to moderate relief. The rock type includes shale and sandstone.

According to the Geologic Map of Pennsylvania (1980), the Leithsville Formation exists below the site which is from the Cambrian Age. This formation is characterized by medium to dark gray crystalline dolomite that is light olive-green in places weathered to light gray and yellowish brown. Massive bedded onlitic pink to gray mottled chert and

dark gray chert are present with thin shale and dolomitic shale interbeds and scattered sand grains.

The overburden material at the location of the site is classified as urban land, according to the Surficial Geology of the Pennsylvania Part of the Easton 7.5 Quadrangle, Northampton County, Pennsylvania, Pennsylvania Geological Survey, Fourth Series (Duane D. Brown, Open File Report 96-38, 1996). Urban land is characterized as cut and fill disturbing more than 50 percent of the ground surface which includes most areas with homes on one-half acre or smaller lots, commercial sites and industrial sites.

According to the United States Department of Agriculture Soil Conservation Service Soil Survey of Northampton County the site consists of urban land (Us) that occasionally floods. This soil is characterized by smooth or slightly concave flood plains. The soil material varies in color or in texture, but all of it consists of water-laid sediment. Most of the areas are long and narrow and parallel nearby streams. The groundwater median yield is 100 gallons per minute with larger yields obtained from solution openings according to the Engineering Characteristics of the Rocks of Pennsylvania, Department of Environmental Resources, Office of Resources Management, Bureau of Topographic and Geologic Survey (1982).

3.2 Site Geology

The majority of subsurface material encountered during the excavation activities consisted of gray, fine stone backfill material. The native soil that was encountered on the sidewalls of the excavation consisted of light brown fine sand and silt with trace

amounts of mottled gray clay. Groundwater was encountered in the excavation at a depth generally between seven (7) and nine (9) feet below grade.

4.0 UST SYSTEM REMOVAL AND SITE ASSESSMENT ACTIVITIES

Between 11 October and 19 October 2001, UST system removal and site assessment activities were conducted at the Elementis Facility. The UST activities consisted of the decommissioning and removal of two single-walled steel 15,000-gallon No. 4 fuel oil UST's and associated piping and valve vault, performing soil remediation and site assessment activities. The site assessment activities consisted of an evaluation of the soil surrounding the UST system and the groundwater within the excavation. In addition, soil load out was completed on 20 November 2001 and 14 December 2001 to remove the petroleum impacted soil from the site. The UST system removal was completed by B & F Petroleum of Reading, Pennsylvania. An environmental scientist from Langan was onsite during the entire removal activities to conduct air monitoring, technical oversight and soil and groundwater sampling.

4.1 UST System Removal

On 11 October 2001, site activities were initiated. In house site plans of the UST system location were obtained and reviewed to locate underground utilities and the system configuration. Sludge and product was observed in the two USTs No. 6 (from 6 to 18 inches). Hazleton Oil Salvage of Hazelton, Pennsylvania was contracted to vacuum out the remaining sludge. Hazleton Oil pumped the remaining residual product, although the vacuum truck that was used was unable to vacuum the remaining sludge due to its high viscosity. The remainder of the sludge was removed after the tanks were removed from the excavation. Removal of the soil surrounding the two 15,000-gallon USTs began on

11 October 2001 with a John Deere 690D excavator. Clean backfill was removed from the north and east side of the USTs and staged onsite. A formerly abandoned in-place railroad car was identified on the east side of the excavation approximately two to three feet below grade. According to Elementis personnel, this railroad tanker car was formerly used for storing fuel oil and was previously abandoned in place.

The product pipes were drained and removed from a pipe trench that led to the adjacent pump house. In addition, a valve vault containing piping and valves associated with the USTs, pump house and remote fill ports was removed. The pipe trench was constructed of an earthen floor and wood sidewalls, and was two (2) feet deep. The valve vault was a 4.5 foot by 5.5 foot concrete cell with a concrete floor, 3.5 foot deep, partially situated below existing grade. The wood, metal piping and concrete removed from these structures were staged for proper disposal.

4.2 Soil and Groundwater Remedial Activities

Between 11 and 18 October 2001, highly stained soil was observed at a depth of six feet below grade. The removal of this soil was completed extending to the top of the water table throughout the entire excavation which was initially encountered at a depth of 7 to 9 feet.

Between 15 and 17 October 2001, a vacuum truck was onsite to remove the product/water mixture in the tanks and the observed free product on the water surface.

Impacted soil removal was staged on poly sheeting pending proper disposal. Separate phase product was observed on the groundwater, although it was not of measurable

thickness. Upon removal of all accessible impacted soils, the metal tie down straps anchoring the USTs to the concrete slab were removed and both USTs were removed from the resting position.

On 17 October 2001, a 70-ton Am Quip Crane was used to remove both USTs from the excavation. The USTs were placed on trailers for transport to Troxell Iron and Scrap in Lehighton, Pennsylvania for recycling. A copy of the tank disposal documentation is included in Appendix A. After removal, small holes were observed on the bottom of each UST. Additional impacted backfill material was removed below the water table, which was observed at approximately ten (10) feet below grade once the tanks were removed. The vacuum truck was used to remove the film of product that was observed on the groundwater surface. Following UST removal, the remainder of the sludge was removed from the interior of the tanks.

On 18 October 2001, Hazelton Oil vacuumed additional product from the groundwater surface that reappeared overnight. UST and impacted soil disposal and oil recycling documentation is presented in Appendix B. A total of 6,750 gallons of No. 4 fuel oil/water mixture was removed from the USTs and excavation. Additional impacted backfill material was removed down to the concrete anchor slabs, which were encountered at approximately 15 feet below grade. In addition, visually impacted soil on the excavation sidewalls was removed. Groundwater was encountered at depths ranging between eight and nine feet below grade. Additional product was vacuumed from the groundwater surface before back filling was initiated. A photoionization detector was used to conduct air monitoring and screen soils not visibly stained for the presence of volatile organic compounds throughout the entire UST system removal.

A total of 332.93 tons of impacted soil and 6,750 gallons of oil and water were removed from the UST excavation. Soil and liquid disposal documentation is included in Appendix B.

Photographic documentation of the UST system removal is presented in Appendix C.

The excavation was backfilled with %-inch clean stone to two feet below grade and 2A modified stone to grade. Two groundwater observation points were installed to an approximate depth of 15 feet in the excavation during backfilling activities on 18 and 19 October 2001. The groundwater observation points consisted of 4-inch diameter 40 Schedule PVC screening and riser pipe with a flush-mount protective steel casing installed at grade. These points were installed to allow for monitoring for the presence of free phase NAPL in the excavation. Subsequent site inspections were conducted on 20 November and 14 December 2001. No free phase NAPL was observed in either observation point.

4.3 Soil and Groundwater Sampling Procedures and Results

Upon completion of soil excavation and product removal activities, post-excavation soil sampling activities were conducted in the tank and pipe trench excavation to confirm the complete removal of impacted soil above the water table. Soil sampling was completed with a stainless steel spatula directly from the excavator bucket and transferred to the sample bottles. The soil samples were analyzed for benzene and naphthalene by U.S. EPA Method 8260B, and fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene and benzo(g,h,i)perylene by U.S. EPA Method 8270C.

Post-excavation soil samples PE-1 and PE-2 were collected from 3.5 feet to 4 feet below grade. Sample PE-1 was collected in the pipe trench on the west side of the valve vault, and PE-2 was collected below the two remote fill ports. Three soil samples (PE-3 through PE-5) were collected from three excavation sidewalls at the six-inch interval above the groundwater surface on 18 October 2001. Two soil samples (PE-6 and PE-7) were collected at the six-inch interval above the groundwater surface in the pipe trench on 19 October 2001. Soil samples in the pipe trench were biased toward piping elbows and joints. Table 1 presents a summary of the post excavation soil sampling results. Figure 3 illustrates the post-excavation soil sampling locations and results.

No targeted volatile organic or base neutral compounds were detected above the PADEP Residential Soil Medium Specific Concentrations (MSC's) in any collected samples (PE-1 to PE-7). No targeted compounds were detected in the trip blank.

In addition, two groundwater samples (GW-1 and GW-2) were collected from the excavation. The groundwater samples were collected with a disposable bailer and transferred directly to the sample bottles. The groundwater samples were analyzed for benzene and naphthalene by U.S. EPA Method 8260B and phenanthrene, pyrene and chrysene by U.S. EPA Method 8270C. A summary of the groundwater results in presented on Table 2. Figure 3 illustrates the groundwater sample locations and results.

A summary of the groundwater sampling results is as follows:

- Benzene and naphthalene were not detected above their respective PADEP Residential Used Aquifer Groundwater MSCs in either of the collected groundwater samples.
- Chrysene (4 ug/l) was detected in sample GW-1 above it's PADEP Groundwater MSC of 1.9 ug/l. Phenanthrene (15 ug/l) and pyrene (3 ug/l) were also detected in GW-1 below their respective PADEP Residential, Used Aquifer Groundwater MSCs.
- Phenanthrene (4 ug/l) was detected in sample GW-2 below its respective PADEP Groundwater MSC.
- No targeted compounds were detected in the field or trip blanks.

A summary of the analytical results are presented on Tables 1 and 2 and annotated on Figure 3. Complete laboratory data packages are included in Appendix D.

4.4 Quality Assurance/Quality Control

The following sections outline the field and laboratory quality assurance/quality control measures that were incorporated into this investigation.

Equipment Decontamination

All sampling equipment was decontaminated to prevent cross-contamination which could result in inaccuracies in the sample analytical results. All soil samples were collected using a decontaminated stainless steel spatula or trowel. Prior to and between field

implementation, all equipment was manually scrubbed with non-phosphate detergent and rinsed with tap water followed by a DI water rinse.

Equipment Calibration

The Photoionization Detector (PID) was calibrated with certified calibration gas prior to field implementation. The scale utilized for soil sampling using methanol extraction/preservation method was calibrated using certified calibration weights.

Field Blanks & Trip Blanks

Field quality assurance/quality control for soil sampling was documented through trip blanks. Soil trip blanks consist of laboratory grade methanol prepared by the analytical laboratory, which accompany soil samples at a rate of one per shipment, or two-day sampling event. Field quality assurance and control for groundwater sampling was documented through field and trip blanks. Groundwater trip blanks consist of laboratory prepared bottles of DI water, which accompany water samples at a rate of one per shipment or 2 day sampling event. Field blanks are prepared by using laboratory provided DI water and pouring it over clean stainless steel trowels and collecting the water in sample bottles.

4.5 Waste Characterization and Disposal

Two waste characterization soil samples of the excavated soil material were collected on 18 October 2001. The samples were analyzed for total organic halides (TOX), total petroleum hydrocarbons (TPH), corrosivity, ignitability, reactivity, poly-chlorinated biphenyl's (PCBs) and total metals which included arsenic, barium, cadmium, total chromium, copper, lead, mercury, nickel, selenium, silver and zinc. Two additional

waste characterization samples of the excavated material were collected on 20 November 2001 and analyzed for TOX and TPH to support additional volume of soil.

After sample collection, all samples were immediately transferred to a sample shuttle in which the internal atmosphere was maintained at 4°C and delivered to Wastex Industries of Pottsville, Pennsylvania. All soil samples analyzed for volatile organic compounds were collected using methane preservation/extraction method.

Upon receipt of the analytical results, the impacted soils were approved by and taken to R3 Technologies of Morrisville, Pennsylvania. A total of 332.93 tons of soil was taken to R3 Technologies for thermal treatment. A copy of the soil treatment documentation is included in Appendix C.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Soil

During UST system removal, heavy fuel oil staining was observed at depths generally greater than six feet below grade. Observed impacts above the groundwater surface were excavated until visual and PID readings were minimal. This generally corresponded to a depth of 9 feet. Approximately 332 tons of impacted backfill material and native soil was excavated and properly treated. Seven post excavation soil samples were collected between the UST and pipe trench excavations. No exceedances of the PADEP Residential Soil MSC's were detected in any of the collected soil samples. Based on these conclusions and observations, no further action with respect to the soil is recommended.

5.2 Groundwater

The former operation of the UST system has impacted the shallow groundwater at the site. This conclusion is based on the groundwater impacts that were observed during the UST system removal as separate phase petroleum product on the groundwater surface. The film of product observed on the groundwater surface was removed using a vacuum truck. The analytical results from the collected groundwater samples revealed that only chrysene was identified above the PADEP Residential, Used Aquifer Groundwater MSC. In addition, no separate phase product was observed on the groundwater surface in the existing well points in recent measurements taken on 20 November and 14 December 2001. Site groundwater is currently being investigated under a separate project. Based on these conclusions and the current remedial work being completed with respect to groundwater, no further action is recommended as part of the UST removal.

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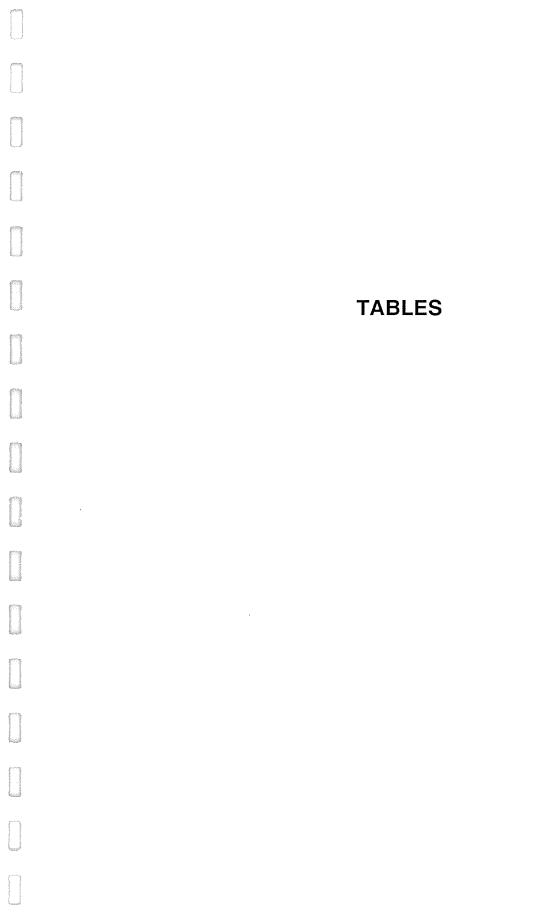


Table 1
Elementis Pigments, Inc
Easton, Pennsylvania
Summary of Post Excavation Soil Sampling Analytical Results

	PADEP	Sample ID	100	002	900	200	800	011	012	600
	Residential	Sample Location	PE-1	PE-2	PE-3	PE-4	PE-5	PE-6	PE-7	18
	Used Aquifer	Lab Sample Number	AC33001	AC33002	AC33006	AC33007	AC33008	AC33011	AC33012	AC33009
	Soil	Sampling Date	•	12-Oct-01	18-Oct-01	18-Oct-01	18-Oct-01	19-Oct-01	19-Oct-01	n/a
	MSC	Depth (feet)		3.5'-4'	9.5'-10'	9.5′-10′	9'-9.5'	7:-7.5	7:-7.5	n/a
Parameters	TDS < 2,500	Units		Result	Result	Result	Result	Result	Result	Result
Volatile Organic Compounds										
benzene	0.5	mg/kg	<0.240	<0.210	<0.220	<0.240	<0.240	<0.310	<0.230	<0.230
naphthalene	25	mg/kg	<0.360	<0.320	<0.330	<0.350	<0.350	<0.470	1.7	<0.350
Base Neutral Compounds										
fluorene	3000	mg/kg	<0.081	<0.073	<0.078	<0.079	<0.083	2.6	4.1	Ϋ́
anthracene	350	mg/kg	<0.081	<0.073	<0.078	<0.079	<0.083	<0.790	<0.790	N A
phenanthrene	10,000	mg/kg	<0.081	<0.073	<0.078	<0.079	<0.083	5.5	7.0	N A
pyrene	2,200	mg/kg	<0.081	0.077	<0.078	<0.079	<0.083	1.2	1.2	Ą
benzo(a)anthracene	25	mg/kg	<0.081	<0.073	<0.078	<0.079	<0.083	<0.790	<0.790	AN
chrysene	230	mg/kg	<0.081	0.11	<0.078	<0.079	<0.083	1.0	1.1	N A
benzo(b)fluoranthene	25	mg/kg	<0.081	<0.073	<0.078	<0.079	<0.083	<0.790	<0.790	N A
benzo(a)pyrene	2.5	mg/kg	<0.081	<0.073	<0.078	<0.079	<0.083	<0.790	<0.790	N A
penzo(ghi)perylene	180	mg/kg	<0.081	<0.073	<0.078	<0.079	<0.083	<0.790	<0.790	Ą
and the mailting and a set of the areas										

mg/kg-milligrams per kilogram NA-Not Analyzed ND-Not Detected n/a-Not applicable

MSC-Medium Specific Concentration

Table 2 Elementis Pigments, Inc Easton, Pennsylvania Summary of Groundwater Sampling Analytical Results

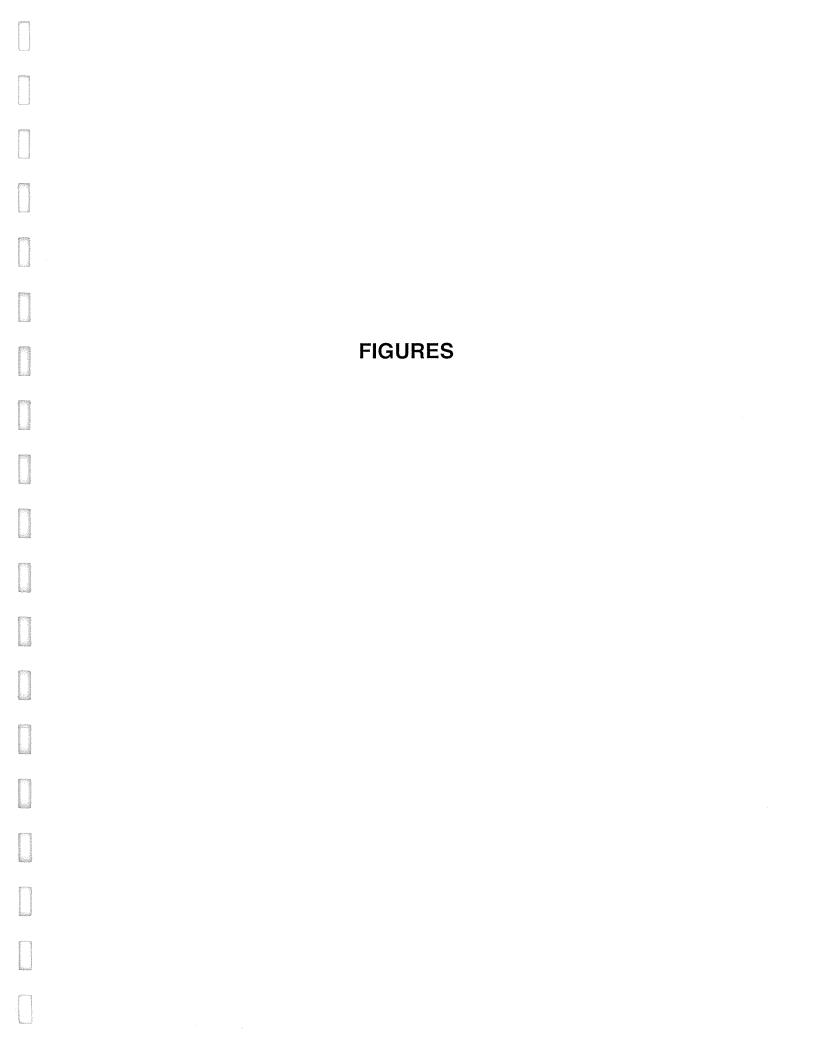
	PADEP	Sample ID	003	004	005	010
	Residential	Sample Location	GW-1	GW-2	FB	TB
	Used Aquifer	Lab Sample Number	AC33003	AC33004	AC33005	AC33010
	Groundwater	Sampling Date	18-Oct-01	18-Oct-01	18-Oct-01	n/a
	MSC	Depth (feet)	n/a	n/a	n/a	n/a
Parameters	TDS < 2,500	Units	Result	Result	Result	Result
Volatile Organic Compounds						
benzene	5	ug/l	<0.002	< 0.002	<0.002	<0.002
naphthalene	100	ug/l	22	9	<0.003	<0.003
Base Neutral Compounds						
phenanthrene	1100	ug/i	15	4	<0.002	NA
pyrene	130.0	ug/l	3	< 0.002	<0.002	NA
chrysene	1.9	ug/l	4	<0.002	<0.002	NA
mg/kg-milligrams per kilogram	4	Exceeds PADEP Residential	Used Aquifer Ground	twater MSC		

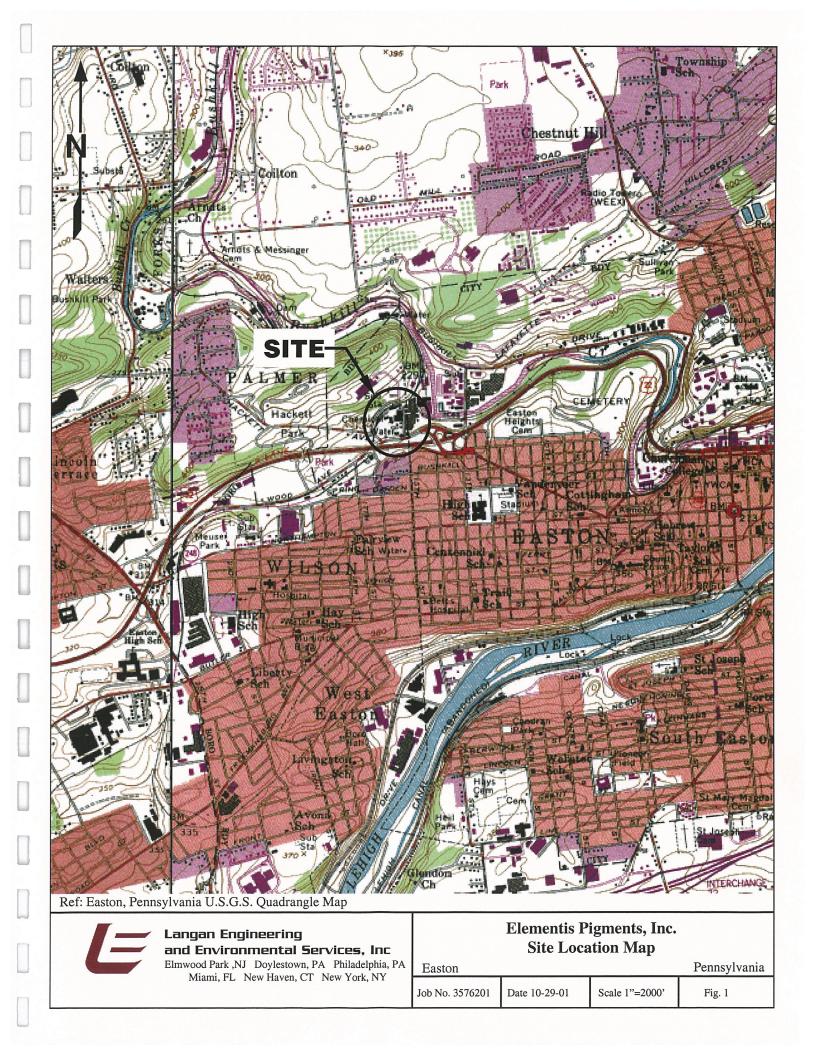
NA-Not Analyzed

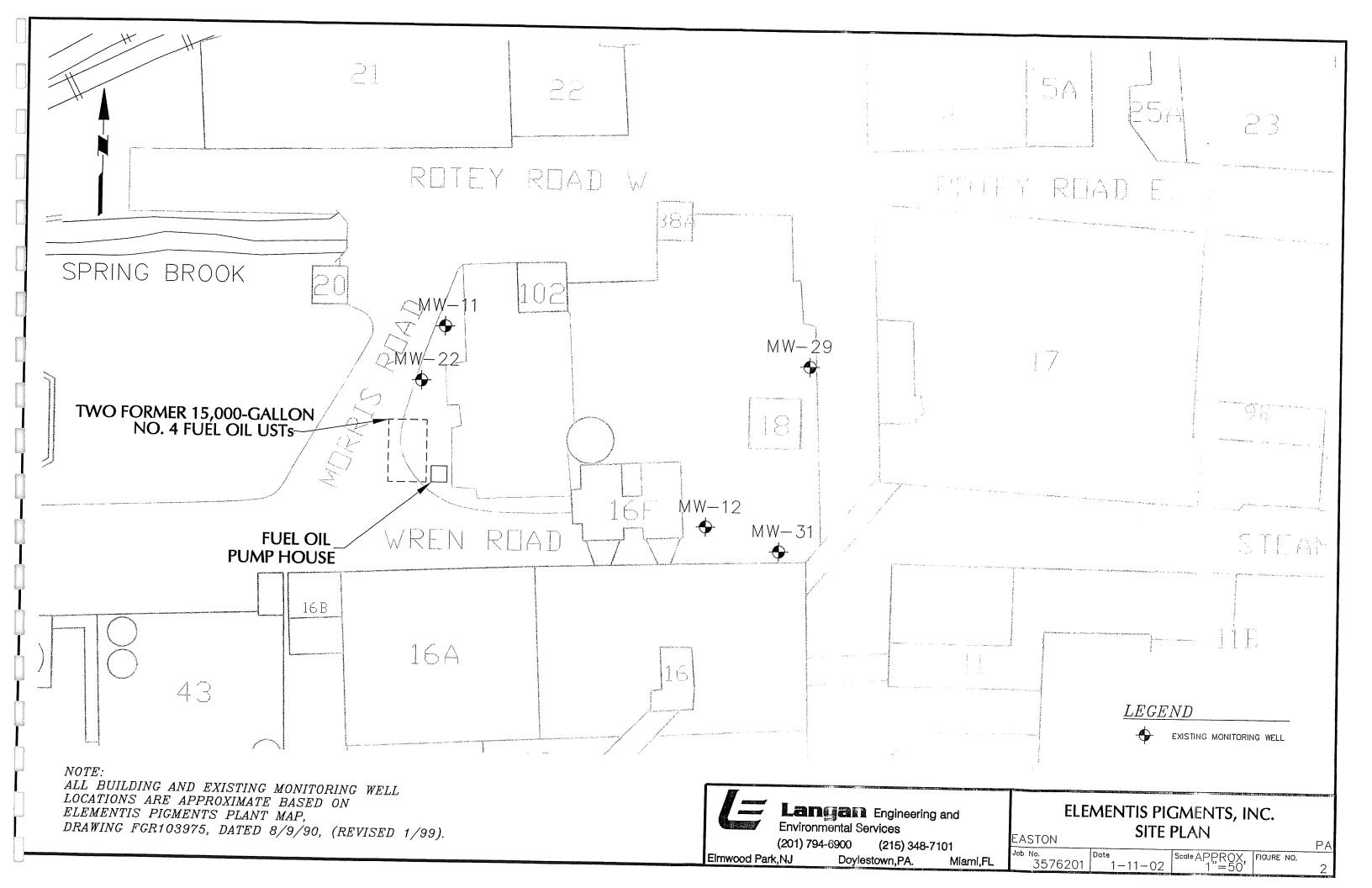
ND-Not Detected

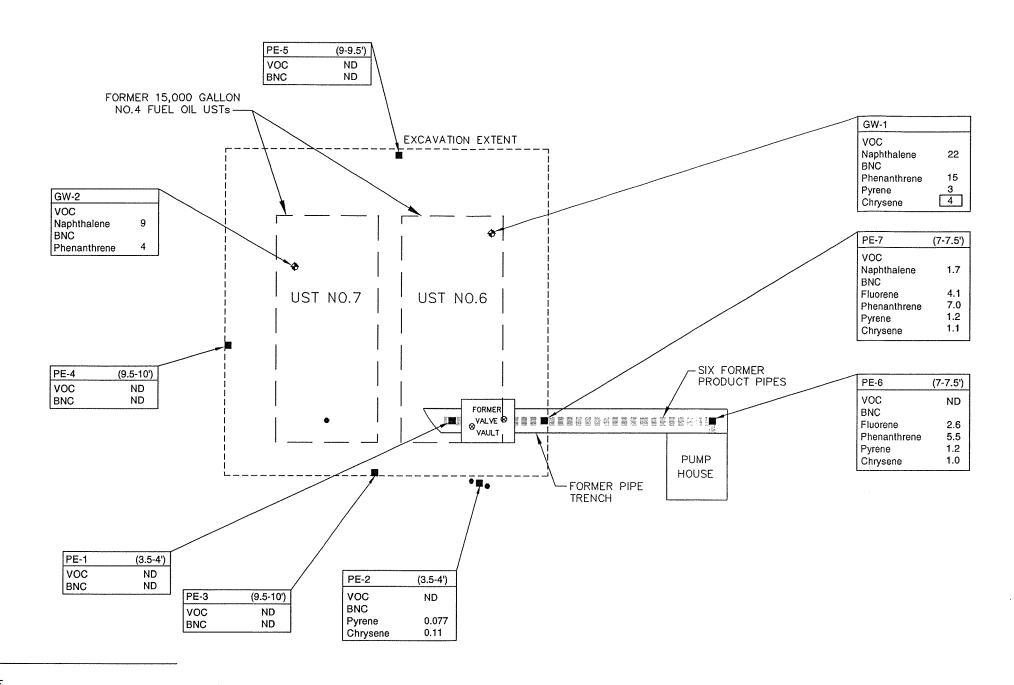
n/a-Not applicable

MSC-Medium Specific Concentration









LEGEND

- POST-EXCAVATION SOIL SAMPLE
- GROUNDWATER SAMPLE LOCATION
- FILL PORT
- VOC VOLATILE ORGANIC COMPOUNDS (INCLUDE Benzene and Naphthalene)
- BNC BASE NEUTRAL COMPOUNDS (INCLUDE Fluorene, Anthracene, Phenanthrene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthrene, Benzo(a)pyrene, Benzo(ghi)perylene. GROUNDWATER SAMPLES WERE ONLY ANALYZED FOR Phenanthrene, Pyrene and Chrysene.
- 4 EXCEEDS PADEP GROUNDWATER MEDIUM SPECIFIC CONCENTRATION

COMPOUNDS NOT DETECTED ABOVE THE METHOD DETECTION LIMIT

NOTES:

- 1. ALL RESULTS ARE PRESENTED IN MILLIGRAMS PER KILOGRAM (mg/kg)
- 2. ONLY RESULTS DETECTED ABOVE THEIR RESPECTIVE MDL ARE PRESENTED



Project POST-EXCAVATION SOIL AND GROUNDWATER SAMPLE LOCATIONS AND RESULTS EASTON PENNSYLVANIA

Doylestown,PA. Miami,FL Elmwood Park,NJ

No. Date 3576201 01-07-02

APPENDIX A TANK DISPOSAL DOCUMENTATION (TO BE PROVIDED WITH FINAL REPORT)

APPENDIX B SOIL AND LIQUID DISPOSAL DOCUMENTATION

HAZLETON OIL SALVAGE LTD. H.O.S. LTD. TAKES FULL RESPONSIBILITY

Phone# 800-458	39 Hazleton, PA 18201 -3496 or 570-454-3464 1816 - PADEP# 301295	For The Pickup, Of All Waste Emu YOU CAN TRUST US	ient Accepted L	By Our Company
Customer PO #	WORK ORDER # Nº 60150 Petroleum Pa zip	Job Site Job Site ELEMI Address Locol Avi Time Arrived	ents fr E EAS	gments City Low PA
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400 gol 4	laste Water pumpe	ed		
600 9A1 U	INTE # 2 Fuel o	il punged		
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Driver Signature if COD	✓ IF CASH CHECK NUMBER	NET 15 DAYS	TOTAL:	
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	and the second s	Williams Of LCD3
Accepted by: SIGN	Accepted by: PRINT	Representative of:
7000	/	1
1227		Grow Fring Shop: - Hazinton PA

11/01/01 12:47 **2**570 929 3048 H.O.S. LIMITED H.O.S. LTD. TAKES FULL RESPONSIBILITY HAZLETON OIL SALVAGE LTD. For The Pickup, Transportation And Disposition P.O. Box No. 2339 Hazleton, PA 18201 Of All Waste Effluent Accepted By Our Company Phone # 800-458-3496 or 570-454-3464 YOU CAN TRUST US WITH ALL YOUR DISPOSAL NEEDS EPA# PA0000101816 - PADEP# 301295 WORK ORDER # Customer PO # No 59647 Phone Address OD Time Finished 500 Time Arrived : Zip City, State IF PRICED: USE AS YOUR INVOICE UNIT PRICE **TOTALS** QUANTITY UNITS ✓!F YES **EXCESS TANK TIME:** min. hrs. TANK CLEANING CHECK NUMBER

GENERATOR CERTIFIES HIS WASTE OIL PRODUCT IS NOT MIXED WITH HAZARDOUS WASTE OR MEASURABLE QUANTITIES OF PCB'S

NET 15 DAYS

TOTAL:

✓ IF CASH

Driver Signature if COD

			`
Accepted by: 5100	Accepted by: PRINT	Representative of:	
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11/01/01 12:46 **2570 929 3048** H.O.S. LIMITED HAZLETON OIL SALVAGE LTD. H.O.S. LTD. TAKES FULL RESPONSIBILITY P.O. Box No. 2339 Hazleton, PA 18201 For The Pickup, Transportation And Disposition Phone# 800-458-3496 or 570-454-3464 Of All Waste Effluent Accepted By Our Company EPA# PA0000101816 - PADEP# 301295 YOU CAN TRUST US WITH ALL YOUR DISPOSAL NEEDS WORK ORDER # Job Site Phone 60359 EASTON Address Time Arrived $\frac{\cancel{9:45}}{100}$ Time Finished $\cancel{2:45}$ City, State Kending IF PRICED: USE AS YOUR INVOICE QUANTITY UNIT PRICE **TOTALS** WASTE WATER pumped from 1300 gal UST ✓IF YES TANK CLEANING **EXCESS TANK TIME:** hrs. min. Driver Signature if COD ✓ IF CASH CHECK NUMBER **NET 15 DAYS** TOTAL:

GENERATOR CERTIFIES HIS WASTE OIL PRODUCT IS NOT MIXED WITH HAZARDOUS WASTE OR MEASURABLE QUANTITIES OF PCB'S

Representative of:

Grow Front Strep Harriera PA

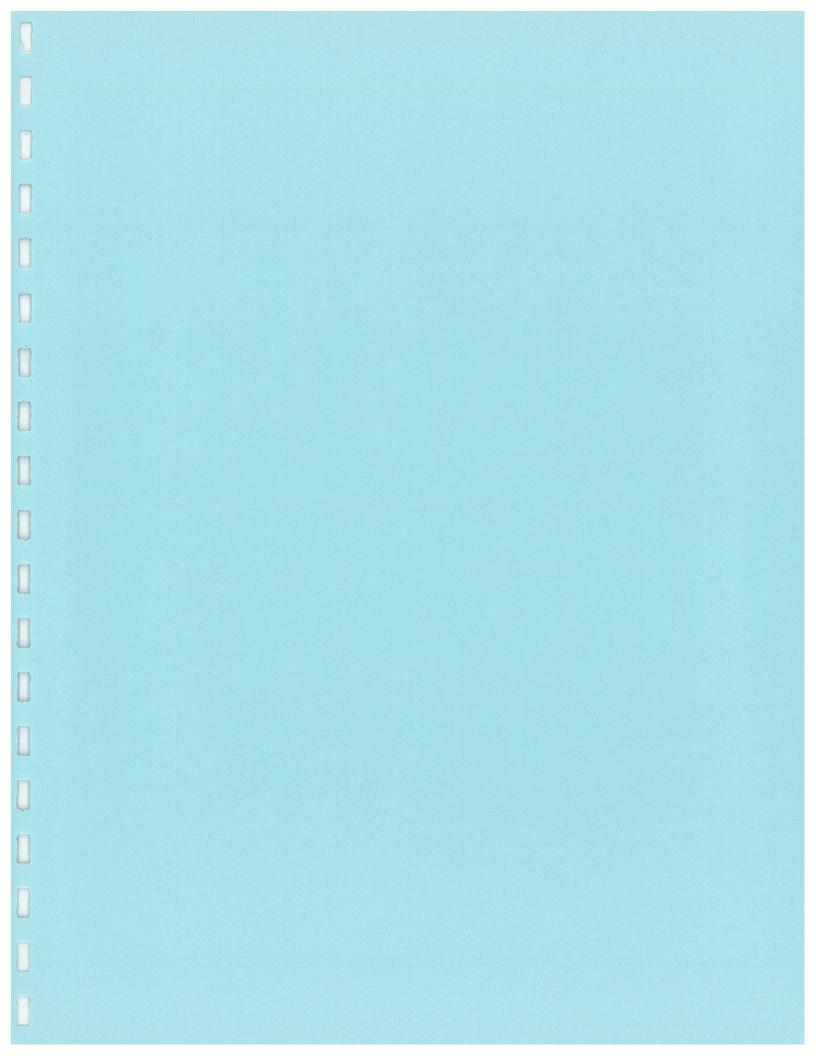
Accepted by: PRINT

Accepted by: SIGN

P.O. Box No. 2339 Hazleton, PA 18201 Phone # 800-458-3496 or 570-454-3464 EPA # PA0000101816 - PADEP # 301295

K.O.S. LTD. TAKES FULL RESPONSIBILITY For The Pickup, Transportation And Disposition Of All Waste Effluent Accepted By Our Company YOU CAN TRUST US WITH ALL YOUR DISPOSAL NEEDS

Customer PO # Phone Bill To:Address	WORK ORDER # 60763	Job Site Comun	Drive tis sug	
City, State Siending	Zip	Time Arrived 8.6	Time Finish	hed 3:00
QUANTITY UNITS	IF PRICED: USE AS YOU	JR INVOICE	UNIT PRICE	TOTALS
2720 gels Mr.	towater + ril emilles	in auftril		
ton	Mottons Gungel,	from elecuration		
and	(b) 15K1 4/57/5			
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TANK CLEANING VIF YES	EXCESS TANK TIME:	hrs. min.		
Driver Signature if COD	✓ IF CASH CHECK NUMBER	NET 15 DAYS	TOTAL:	
GENEF WITH HA	ATOR CERTIFIES HIS WASTE O	DIL PRODUCT IS NOT JRABLE QUANTITIES (MIXED OF PCB'S	
Accepted by: SIGN	Accepted by: PRINT	Representa		•
- Yal				Globe Print Strop - Hazleton, PA



R3 TECHNOLOGIES 7 STEEL ROAD EAST MORRISVILLE, PA 19067-0847 215.428.1700

Ticket:5947 Date:11/20/01 Time In:12:03 PM

Time Out:12:03 PM Manifest#:55401

M: LANGAN ENGINEERING

66: LANØ111010A4

Hauler: OVERLAND TRANSPORT

luck: avl 595

Bross: 76220 Gre: 23180

Wet: 53040 Lbs. 26.52 Tons

roduct: NO. 4 OIL

Lic: 06041



R₃ Technologies, Inc. • 7 Steel Road East • P.O. Box 847 • Morrisville, PA 19067-0847 • Phone: (215) 428-1700

NON-HAZARDOUS WASTE MANIFEST

1	EPA I.D. No., Generator of Waste:
1.	Company Name: (Print or Type) Pick-up Address: (No.) (Street) (Street) (State)
	Company Name: (Print of Type) 5 WOOd ANSWUR
	Telephone Number: Fax Number:
	Waste Stream Identification: This manifest represents a non-hazardous waste as per EPA and PA D.E.P. regulations.
	Tons: Cubic Yards: Other: (Specify)
	Tons: Cubic Yards: Other: (Specify) Waste Type: Concorned Concorn
	Special Handling Instructions, if any: 10000
	PROFILE/WASTE STREAM I.D. NUMBER: La Lo 1/10/084
TO S	
COI	is is to certify that the above named materials are properly classified, described, packaged, marked, and labeled, and are in proper indition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I tify that the foregoing is true and correct to the best of my knowledge.
Da	te: 11/20/61 Signature: Wash Kennyelle Eng. MANJER (Name and Title)
2.	Hauler of Waste (must be filled in by hauler) EPA I.D. No.:
	COMPANY NAME: (VERLAND) SERV
	ADDRESS: 151, 55/ CLARKSBURG N.J.
	Pick-up Date: 1120 01 Truck No.: 96 Vehicle Lic. No.: ADIBOX / 1/2
	The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify
	under penalty of perjury that the foregoing is true and correct//
	(Signature of authorized agent and title)
3.	Processing Facility: R3 Technologies, Inc.
	7 Steel Road East Morrisville, PA 19067-0847
	Permit #301254
	Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on this date:
	11.20-01
	(Signature of authorized agent and title)

R3 TECHNOLOGIES 7 STEEL ROAD EAST MORRISVILLE, PA 19067-0847 215.428.1700

Ticket:5948 Date:11/20/01 Time In:12:09 PM

Time Out:12:09 PM Manifest#:55400

AN: LANGAN ENGINEERING

Fob: LAN0111010A4

Hauler: . OVERLAND TRANSPORT

Aruck: LT19

Pross: 80600 Pare: 27300

Net: 53300 Lbs. 26.65 Tons

Product: NO. 4 OIL

Lic: 06041

Manifest No.: 55402



R₃ Technologies, Inc. • 7 Steel Road East • P.O. Box 847 • Morrisville, PA 19067-0847 • Phone: (215) 428-1700

NON-HAZARDOUS WASTE MANIFEST

EPA I.D. No., Generator of Waste	
Company Name: (Print or Type) Pick-up Address:	Timentos pagnieros fue
Pick-up Address:	A detaile
•	
Telephone Number:	Fax Number:
Waste Stream Identification:	This manifest represents a non-hazardous waste as per EPA and PA D.E.P. regulations.
Tons:	Cubic Yards: Other: (Specify)
Waste Type:	Cubic Yards: Other: (Specify) decum: Pertamenatu Del
Special Handling Instructions if a	Mene
Special randing instructions, it a	ny:
	Name of the Control o
PROFILE / WASTE STREA	MI.D. NUMBER: 10/0/044
is is to certify that the above named	i materials are properly classified, described, packaged, marked, and labeled, and are in proper
nte:	Signature: Start Kindle Eng. Photogram
ate: ///20/01	Signature: Start Roll Eng. Philippe
	by Mauler) EPA I.D. No.:
Hauler of Waste (must be filled-in	by Mauler) EPA I.D. No.:
Hauler of Waste (must be filled-in COMPANY NAME:	by Mauler) EPA I.D. No.:
Hauler of Waste (must be filled-in COMPANY NAME: ADDRESS: Pick-up Date: The above described waste was pick-up described waste was pick-up described.	by Mauler) EPA I.D. No.: (if applicable)
Hauler of Waste (must be filled-in COMPANY NAME: ADDRESS: Pick-up Date:	by Mauler) EPA I.D. No.: (if applicable)
Hauler of Waste (must be filled-in COMPANY NAME: ADDRESS: Pick-up Date: The above described waste was pick-up described waste was pick-up described.	by Mauler) EPA I.D. No.: (if applicable)
Hauler of Waste (must be filled-in COMPANY NAME: ADDRESS: Pick-up Date: The above described waste was picunder penalty of perjury that the form	by Mauler) EPA I.D. No.: (if applicable) C. Truck No.: Vehicle Lic. No.: Cked up and hauled by me to the disposal facility named below and was accepted. I certify oregoing is true and correct. (Signature of authorized agent and title)
Hauler of Waste (must be filled-in COMPANY NAME: ADDRESS: Pick-up Date: The above described waste was piunder penalty of perjury that the form of the processing Facility: R3 Technology Technolog	by hauler) EPA I.D. No.: (if applicable) (if applicable) (It applicable) (See A U.D. No.: (See A U.D. No.: (Signature of authorized agent and title)
Hauler of Waste (must be filled-in COMPANY NAME: ADDRESS: Pick-up Date: The above described waste was piunder penalty of perjury that the form of the processing Facility: R3 Technology Technolog	by hauler) EPA I.D. No.: (if applicable) Colored up and hauled by me to the disposal facility named below and was accepted. I certify oregoing is true and correct. (Signature of authorized agent and title) ologies, Inc. oad East le, PA 19067-0847
Hauler of Waste (must be filled-in COMPANY NAME: ADDRESS: Pick-up Date: The above described waste was picunder penalty of perjury that the form of the processing Facility: Processing Facility: R3 Techn 7 Steel Ro Morrisvil Permit #3 Waste subject to this manifest was	by hauler) EPA I.D. No.: Color Co
Hauler of Waste (must be filled-in COMPANY NAME: ADDRESS: Pick-up Date: The above described waste was piunder penalty of perjury that the form of Steel Roman S	by hauler) EPA I.D. No.: Color Co
Hauler of Waste (must be filled-in COMPANY NAME: ADDRESS: Pick-up Date: The above described waste was picunder penalty of perjury that the form of the Morrisvil Permit #3 Waste subject to this manifest was	by hauler) EPA I.D. No.: (if applicable) C. Truck No.: Vehicle Lic. No.: Cked up and hauled by me to the disposal facility named below and was accepted. I certify oregoing is true and correct. (Signature of authorized agent and title) ologies, Inc. oad East le, PA 19067-0847 301254 delivered by the above

R3 TECHNOLOGIES 7 STEEL ROAD EAST MORRISVILLE, PA 19067-0847 215.428.1700

: LANGAN ENGINEERING

Ticket:5950 Date:11/20/01 Time In:01:19 PM

h: LAN0111010A4

Time Out:Ø1:19 PM Manifest#:55278

adler: OVERLAND TRANSPORT

ck: LT17

nss: 86320

e: 25500

t: 60820 Lbs. 30.41 Tons

duct: NO. 4 OIL

Unliet

_Lic: 06041



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NON-HAZARDOUS WASTE MANIFEST

EPA I.D. No., Generator of Waste:				
Company Name: (Print or Type) Pick-up Address:	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	montos Vis	news Inc	
Company Name: (Print or Type)	5 wood Avenue	8.00 0.0		
Pick-up Address: (No.)	(Street)	(City)	(State)	•
Telephone Number:				
Waste Stream Identification:	This manifest represents a non-h	nazardous waste as per EPA ar	nd PA D.E.P. regulations.	•
Tons:	Cubic Yards: 3 760 -	Other: (Specify)	The state of the s	
Tons:	troleun Co	ontomerate	el Soil	4.
Special Handling Instructions, if a	nv'	none	The second of th	
Special Handing Housedons, it a				
PROFILE / WASTE STREA	M I.D. NUMBER:	CANOLII	010 A4	
condition for transportation according certify that the foregoing is true and co	prrect to the best of my knowledg	e.		
2. Hauler of Waste (must be filled in COMPANY NAME: ADDRESS: Pick-up Date:	by hayler) EPA I.D. No.:	tif applicable	9	
ADDRESS:	Touch No.	National Nat	AES9696	PA.
The above described waste was pi under penalty of perjury that the fo	cked up and hauled by me to the			
	(Signature of authorized age	ent and title)		
₹7 Steel Ro	le, PA 19067-0847		\ \	
Waste subject to this manifest was hauler to this disposal facility and				
	ns en		$A \wedge A$	ΛΛ
	(Signature of authorized ag	ent and title)		(J)

R3-TECHNOLOGIES
7 STEEL ROAD EAST
MORRISVILLE, PA 19067-0847
215.428.1700

Ticket:5951 Date:11/20/01 Time In:01:32 PM

Time Out:01:32 PM Manifest#:55277

AN: LANGAN ENGINEERING

ob: LAN0111010A4

Hauler: OVERLAND TRANSPORT

Gruck: OVL 493

ross: 78860 are: 26100

Wet: 52760 Lbs. 26.38 Tons

Groduct: NO. 4 DIL

Lic: 06041

Rechnologies

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EPA I.D. No., Generator of	of Waste:					
EPA I.D. No., Generator of Company Name: (Print or Pick-up Address:	r Tuno)	Con	certil,	Rancin	Or and	. C
	1792 CO	W Avenue	Bim Conta	- 42 ·	and b	oru b E
Pick-up Address:	(No.)	(Street)		(City)	(State	3) 1/
Telephone Number:			Fax Number:			
Waste Stream Identification	UII	5	n non-hazardous was			ť
Tons: Waste Type:	*Cubic	Yards:		Öther: (Specify)	<u> </u>	•
Waste Type:	Poth	oleum.	Car to	meratu	1 -	16
,				Jan Samuel	L	
Special Handling Instruct	tions, if any:			*	*	
				1 0111	06000	
PROFILE / WASTE	STREAM I.D	NUMBER:	10 1 LA 1	0 0111	010119	_
		the best of my kno		(Name and Title)	Eng. 1	Honryo
Pate:			Charle y			Unnsn
Pate: 11/20/	01	Signature:	Mark 1	Service	25.	Manga
eate: ///20/	O /	Signature: ler) EPA I.D. No.: _	Mark 1	(Name and Title) Set vice (if applicable)	25.	Warsa
eate:	ol.	Signature: ler) EPA I.D. No.: _ Set J. (es.	Mark 1	Service	25.	Maria
Oate: 1//20/ Hauler of Waste (must be COMPANY NAME: 4 ADDRESS: 4	ol.	Signature: ler) EPA I.D. No.: _ Set J. (es.	OVER INUE	Set vice , (if applicable)	25.	Maryo
ADDRESS: Pick-up Date:	e filled in by hau ONOZ (AND ACK) BACC	Signature:	Over Inud	Set vice (if applicable) Vehicle Lic. No.: _	192424	
Oate: 1//20/ Hauler of Waste (must be COMPANY NAME: 4 ADDRESS: 4	e filled in by hau O V O C (AN d A (K) B A (C	Ler) EPA I.D. No.: Set 1. (e) Truck No.:	OVOR I AND To the disposal facility	Set vice (if applicable) Vehicle Lic. No.: _	192424	
ADDRESS: Pick-up Date: // 20 / 20 / 20 / 2	e filled in by hau O V O C (AN d A (K) B A (C	Ler) EPA I.D. No.: Set J. (es) Truck No.: p and hauted by me and correct () J. (es)	OVER I AUG	Set vice (if applicable) Vehicle Lic. No.: _	192424	
ADDRESS: Pick-up Date: The above described was under penalty of perjury	e filled in by hau ONOL (AND ACK) BACC O ste was picked up that the foregoin MM	Signature:	OVOR I AND To the disposal facility	Set vice (if applicable) Vehicle Lic. No.: _	192424	
ADDRESS: Pick-up Date: The above described was under penalty of perjury Processing Facility: R: 7	e filled in by hau O V O L (A V d A (K) G (() Ste was picked up that the foregoin Why 3 Technologic Steel Road E	Ler) EPA I.D. No.: Set 1, (e) Truck No.: p and hauled by me and struck and correct (Signature of authors, Inc. ast	OVER I AUG	Set vice (if applicable) Vehicle Lic. No.: _	192424	
ADDRESS: Pick-up Date: The above described was under penalty of perjury Processing Facility: R: 7 M	e filled in by hau O V V V V V V V A (K) B V (V V V V V V V V V V V V V V V V V	Ler) EPA I.D. No.: Set 1, (e) Truck No.: p and hauled by me g is true and correc (Signature of auth es, Inc. ast 19067-0847	OVER I AUG	Set vice (if applicable) Vehicle Lic. No.: _	192424	
ADDRESS: Pick-up Date: The above described was under penalty of perjury Processing Facility: R M Pe Waste subject to this man	e filled in by hau O V O C (A V d A(K) () () () Ste was picked up that the foregoin Technologie Steel Road E Iorrisville, PA ermit #30125 nifest was delive	Signature:	OVER I AUG	Set vice (if applicable) Vehicle Lic. No.: _	192424	
ADDRESS: Pick-up Date: The above described was under penalty of perjury Processing Facility: R: M Po	e filled in by hau O V O C (A V d A(K) () () () Ste was picked up that the foregoin Technologie Steel Road E Iorrisville, PA ermit #30125 nifest was delive	Signature:	OVER I AUG	Set vice (if applicable) Vehicle Lic. No.: _	192424	

R3 TECHNOLOGIES 7 STEEL ROAD EAST MORRISVILLE, PA 19067-0847 215-428,1700

Ticket:5952

Date:11/20/01 Time In:01:54 PM

Time Out:01:54 PM Manifest#:55279

LANGAN ENGINEERING

job: LAN0111010A4

auler: OVERLAND TRANSPORT

Truck:

Gross: 91160 Jare: 24920

wet: 66240 Lbs. 33.12 Tons

roduct: NO. 4 OIL



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EDAID No Concer	stor of Waster		
. EPA I.D. No., Genera		Comentes 1	2 Minor
Company Name: (Pri	nt or Type) C5 Weed A	warys 18m	
Pick-up Address:	(No.) (Street)	374-5-18-M	(State)
Telephone Number:		Fax Number:	(ciuic)
Waste Stream Identifi	ication: This manifest re	presents a non-hazardous waste as p	er EPA and PA D.E.P. regulations.
		Other:	(Specify)
Waste Type:	follower n	- CEM (A) MA MANA	Taring Taring
Special Handling Inst	tructions, if any:		· MERS
PROFILE / WAS	TE STREAM I.D. NUME	BER: 1 / / / /	1111111111
			I, marked, and labeled, and are in proper
ate: ///20	/6/ Signatu	ure: Micele Man	e and Titles
Hauler of Waste (mu	st be filled in by hauler) EPA I.	.D. No.:	
COMPANY NAME:			(if applicable)
ADDRESS:	MARK, SOURA		
Pick-up Date: _//			11/10/11
	/ /// / Truck No.	· // Vehicle	Lic No: 4/ 8/2/
The above described	성 보고 아내가 되었다. 이 그런 그는 걸었다	: Vehicle ed by me to the disposal facility nan	e Lic. No.: 4 8 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
The above described	waste was picked up and haule ury that the foregoing is true at	: Vehicle ed by me to the disposal facility name and correct.	Lic. No.: 11 03/01
The above described under penalty of perj	waste was picked up and haule ury that the foregoing is true at ssign	: Vehicle ed by me to the disposal facility nan	Lic. No.: 11 03/01
The above described under penalty of perj	waste was picked up and haule ury that the foregoing is true at	: Vehicle ed by me to the disposal facility name and correct.	Lic. No.: 11 03/01
The above described under penalty of perj Processing Facility: Waste subject to this	waste was picked up and haule ury that the foregoing is true an ssign R3 Technologies, Inc. 7 Steel Road East Morrisville, PA 19067-0	: Vehicle ed by me to the disposal facility name not correct. nature of authorized agent and title) 0847 above	Lic. No.: 11 03/01
The above described under penalty of perj Processing Facility: Waste subject to this	waste was picked up and haule ury that the foregoing is true at 15 ps fer R3 Technologies, Inc. 7 Steel Road East Morrisville, PA 19067-0 Permit #301254 manifest was delivered by the	: Vehicle ed by me to the disposal facility name not correct. nature of authorized agent and title) 0847 above	Lic. No.: 11 03/01

R3 TECHNOLOGIES
7 STEEL ROAD EAST
MORRISVILLE, PA 19067-0847
215.428.1700

AN: LANGAN ENGINEERING

Ticket:5953 Date:11/20/01 Time In:05:35 PM

Job: LAN0111010A4

Time Out:05:35 PM Manifest#:55280

Wauler: OVERLAND TRANSPORT

ruck: DVL

Bross: 83900

are: 26600

vet: 57300 Lbs. 28.65 Tons

reduct : NO. 4 GIL

Lic: 05041

Rechnologies

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No.			•		
EPA I.D. No., Gen	erator of Waste:				
	Print or Type	1/100	Wanted		The state of the s
Company Name: (Print or Type)	sa huttue	Notes to the Control		mpartin da ha saikir
Dick-up Address	1-40-17-7	3-14-11	In our	a a	
Tick-up Address.	(No.)	(Street)	(City)	(State)
Telephone Number	r:	<u> </u>	Fax Number: .		
			* * * * * * * * * * * * * * * * * * * *		
Waste Stream Iden	tification: This man	ilest represents a noi	1-hazardous waste	as per EPA and PA D	D.E.P. regulations.
and the second second		<i>2</i> .			•
Ions:	Cubic Ya	irds:	<u> </u>	her: (Specify)	
Waste Type	- Cubic Ya	Company of the	-1911 F (1	and the Co	
				4.44	
Special Handling I	Instructions, if any:		-	18-72	
Company of the Compan					
PROFILE / WA	ASTE STREAM I.D. N	JIIMBER	1 / 1/1/11	644611	1974 (1981)
i Koi ile; wi					
e:	0/01	Signature:	ave octor	(Name and Title)	og. remongen
TT1CNY					
and the second of the second o	nust be filled in by hauler)			(if applicable)	
COMPANY NAM	ie: <u>OVEQU</u>	MA			
	(17			
ADDRESS:	C 1/1// 50 1/10	304 17.2			
			57	A	T-60K571
Pick-up Date:	<u>Ti - Bernikaan didi</u> diru	ck No.:	<u> ∕</u> Ve	hicle Lic. No.:/_/_	
The above describ	ed waste was picked up ar	id hauled by me to th	e disposal facility	named below and wa	s accepted. I certify
under penanty of p	erjury that the foregoing is	, irue and correct.	2 / / 2		
		$\frac{1}{L}$			
		(Signature of authorized	agent and title)-		
Processing Facility	y: R3 Technologies,	Inc			
	7 Steel Road East				
	Morrisville, PA 19				
	Permit #301254				
Waste subject to th	nis manifest was delivered	by the above	•		
hauler to this dispo	osal facility and accepted o	n this date:			
•					
					1
		(Signature of authorized	i agent and title)		14 / // 1

R3 TECHNOLOGIES
7 STEEL ROAD EAST
MORRISVILLE, PA 19067-0847
215.428.1700

AN: LANGAN ENGINEERING

bb: LAN0111010A4

Hauler: OVERLAND TRANSPORT

uck: OVL 493

Gross: 76420 -Pare: 26100

Vet: 50320 Lbs. 25.16 Tons

roduct: NO. 4 OIL

Ticket:5955 Date:11/21/01 Time In:08:15 AM

Time Out:06:15 Am Manifest#:*5550*/

1)) (Eic: 08041



R₃ Technologies, Inc. • 7 Steel Road East • P.O. Box 847 • Morrisville, PA 19067-0847 • Phone: (215) 428-1700

1. EPA I.D. No., Generator of Waste:

Company Name: (Print or Type)	Clements Permant
Pick-up Address: /525.	(Street) (City) (State)
Telephone Number:	Fax Number:
Waste Stream Identification: This r	nanifest represents a non-hazardous waste as per EPA and PA D.E.P. regulations.
Tons: Cubic	Yards: Other (Specify)
Waste Type:	Yards: Zoil Other (Specify) Thelew Cout Soil Worl
	usne
Special Handling Instructions, if any:	
PROFILE / WASTE STREAM I.D	D. NUMBER: LAN 0.11/0/0 A4
ndition for transportation according to application that the foregoing is true and correct to	als are properly classified, described, packaged, marked, and labeled, and are in propicable state and federal law. The wastes were consigned to the transporter named. I the best of my knowledge. Signature: (Name and Title)
te:	Signature: (Name and Title)
Hauler of Waste (must be filled in by haul	ler) EPA I.D. No.:
Hauler of Waste (must be filled in by haul	ler) EPA I.D. No.:
Hauler of Waste (must be filled in by haul COMPANY NAME:	ler) EPA I.D. No.: (if applicable) Clarkes I was D
Hauler of Waste (must be filled in by haul COMPANY NAME: ADDRESS:	ler) EPA I.D. No.: Oriford Clarkes frug N J 493
COMPANY NAME: ADDRESS: Pick-up Date: / / / / / / / / / / / / / / / / / / /	Truck No.: 493 Vehicle Lic. No.: 192424
COMPANY NAME: ADDRESS: Pick-up Date: / / / / / / / / / / / / / / / / / / /	Truck No.:
COMPANY NAME: ADDRESS: Pick-up Date: // / / / / / / / / / / / / / / / / /	Truck No.:
COMPANY NAME: ADDRESS: Pick-up Date: // / / / / / / / / / / / / / / / / /	Truck No.:
COMPANY NAME: ADDRESS: Pick-up Date: // / / / / / / / / / / / / / / / / /	Truck No.: Vehicle Lic. No.: 192434 of and hauled by me to the disposal facility named below and was accepted. I certify g is true and correct. (Signature of authorized agent and title) es, Inc. ast 19067-0847
COMPANY NAME: ADDRESS: Pick-up Date:	Truck No.:
COMPANY NAME: ADDRESS: Pick-up Date:	Truck No.:

R3 TECHNOLOGIES
7 STEEL ROAD EAST
MORRISVILLE, PA 19067-0847
215-428,1700

N: LANGAN ENGINEERING

Charles Cland I activities

bb: LANG111010A4

Hauler:

OVERLAND TRANSPORT

ruck: LT17

Gross: 82720 are: 25500

Net: 57220 Lbs. 28.61 Yours

oduct: NO. 4 UIL

FreRev:5954 Date:11/21/01 Time In:06:12 AM

Time Out:06:15 AM Manifest#:55463

Lic: 06041

R3 technologies

technologies

R3 Technologies, Inc. • 7 Steel Road East • P.O. Box 847 • Morrisville, PA 19067-0847 • Phone: (215) 428-1700

1. EPA I.D. No., Generator of Waste:	4.	45403	
Company Name: (Print or Type) Element.	s Pizments	Inc,	
Pick-up Address: 1575 Wood Aven	ue Earsto	AQ n	(State)
Telephone Number:	Fax Number:		(State)
Waste Stream Identification: This manifest represent	s a non-hazardous waste as j	per EPA and PA D.E.P.	regulations.
Tons: Cubic Yards: S. Waste Type: Petroleum C	Other:	(Specify)	
Waste Type: retroleum C	intominated.	Soil	•
Special Handling Instructions, if any:		_	
PROFILE / WASTE STREAM I.D. NUMBER:	EMOIT	PADIOI	
condition for transportation according to applicable state and fe certify that the foregoing is true and correct to the best of my k. Date:	nowledge.		
Hauler of Waste (must be filled in by hauler) EPA I.D. No.:			
COMPANY NAME: $\frac{U'v \in L \cap ND}{(1 + (1 + (1 + (1 + (1 + (1 + (1 + (1 +$	<u> </u>	(if applicable)	
ADDRESS: CLANKS BURG			C/G/ /)a
Pick-up Date: Truck No.:	Vehicl	e Lic. No.: AE 5	76/6 74 .
The above described waste was picked up and hauled by munder penalty of perjury that the foregoing is true and corre			pted. I certify
(Signature of at	thorized agent and title)		
3. Processing Facility: R3 Technologies, Inc. 7 Steel Road East Morrisville, PA 19067-0847 Permit #301254	111241	-10 A	
Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on this date:	Jan Comment		
(Signature of a	uthorized agent and title)		

R3 TECHNOLOGIES 7 STEEL ROAD EAST MORRISVILLE, PA 19067-0847 215:428.1700

Ticket:6406 Date:12/14/01 Time In:01:22 PM

Time Out:01:22 PM Manifest#:55503

: LANGAN ENGINEERING

: LAN0111010A4

auler: OVERLAND TRANSPORT

Mick: LT19

)ss: 77840 re: 26300

et: 51540 Lbs. 25.77 Tons

Foduct: NO. 4 OIL

- Lic: 05041

R3 technologies

R₃ Technologies, Inc. • 7 Steel Road East • P.O. Box 847 • Morrisville, PA 19067-0847 • Phone: (215) 428-1700

	e:	mer two	1 0	·	$\frac{1}{1}$
Company Name: (Print or Type)	100	men au	1000	1000	Green.
Pick-up Address:	(Street)	ra one	- Cant	on the.	(Note)
Telephone Number:	(Sirect)	Fax Nui	(City)		(State)
Waste Stream Identification:	This manifest repres			and PA D.E.P.	regulations.
Tons:	Cubic Yards:				
	Taleun	CART	Other: (Special	(y)	.0
-J,F-0.					
Special Handling Instructions, if	any:	Mone			
		,			·
PROFILE / WASTE STREA	AM I.D. NUMBER	: LAN	10/110	10 AH	
Date: 12/19/01	Signature: .	12/11/11	Section 1	A second	ill
AIC.	Signature: -	(April 82)	(Name and Title	Engineer.	is populate
. Hauler of Waste (must be filled in	by hauler) ERA I.D. N	lo.:	(Name and Title	,	
. Hauler of Waste (must be filled in	by hauler) ERA I.D. N	lo.:	(Name and Title (Name and Title) (If applies)	,	
. Hauler of Waste (must be filled in COMPANY NAME:ADDRESS:	by hauler) ERA I.D. N	10::	(Name and Title (Name and Title (Name and Title	iblér Nork	
COMPANY NAME:ADDRESS:	by hauler) ERA I.D. N	10::	(Name and Title (Name and Title (If application of the second of the s	iblér Nork	
. Hauler of Waste (must be filled in	by hauler) ERA I.D. N Truck No.:	10.:	Vehicle Lic. N	o.:wand was accep	
ADDRESS: Pick-up Date: The above described waste was pi under penalty of perjury that the form	by hauler) EPA I.D. N Truck No.: icked up and hauled by oregoing is true and co	10.:	Vehicle Lic. Nacility named belo	o.:wand was accep	
ADDRESS: Pick-up Date: The above described waste was pi under penalty of perjury that the form of the processing Facility: R3 Techn 7 Steel R6	Truck No.: Cked up and hauled by oregoing is true and co cologies, Inc. coad East le, PA 19067-0847	me to the disposal forrect.	Vehicle Lic. Nacility named belo	o.:wand was accep	
ADDRESS: Pick-up Date: The above described waste was pi under penalty of perjury that the form of the Morrisvil Permit #3 Waste subject to this manifest was	Truck No.: icked up and hauled by oregoing is true and co Cologies, Inc. oad East le, PA 19067-0847 801254 delivered by the above	me to the disposal firrect.	_ Vehicle Lic. Nacility named belo	o.:wand was accep	ted. I certify
ADDRESS: Pick-up Date: The above described waste was pi under penalty of perjury that the form of the period of	Truck No.: icked up and hauled by oregoing is true and co Cologies, Inc. oad East le, PA 19067-0847 801254 delivered by the above	me to the disposal firrect.	_ Vehicle Lic. Nacility named belo	o.:wand was accep	ted. I certify

R3 TECHNOLOGIES 7 STEEL ROAD EAST MORRISVILLE, PA 19067-0847 215.428.1700

> Ticket:6407 Date:12/14/01 Time In:01:30 PM

Time Out:01:30 PM Manifest#:55506

N: LANGAN ENGINEERING

Jeb: LAN0111010A4

Hauler: OVERLAND TRANSPORT

uck: 777

Gross: 75660

Fre: 25480

Wet: 50180 Lbs. 25.09 Tons

oduct: NO. 4 OIL

1 3 m > 0 C O A 1/

Rechnologies

R₃ Technologies, Inc. • 7 Steel Road East • P.O. Box 847 • Morrisville, PA 19067-0847 • Phone: (215) 428-1700

1.	EPA I.D. No., Generator of Waste:
	Company Name: (Print or Type)
	Company Name: (Print or Type)
	Pick-up Address: /525 (Street) (City) (State)
	Telephone Number: Fax Number:
	Waste Stream Identification: This manifest represents a non-hazardous waste as per EPA and PA D.E.P. regulations.
	Tons: Cubic Yards: Other: (Specify) Waste Type: TTTPOICUM COMMAND NITTO
	Cubic Taids. Other. (Specify)
	Waste Type: $TC (YCO) C CCM7 (CO) MACO Sold$
	Special Handling Instructions, if any:
	Special Halluming instructions, it any.
_	
	PROFILE / WASTE STREAM I.D. NUMBER: 24/0/1/0/044
TI	his is to certify that the above named materials are properly classified, described, packaged, marked, and labeled, and are in proper ondition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I
ce	ertify that the foregoing is true and correct to the best of my knowledge.
	ate: 12/14/01 Signature: That Sent Cregionery Margin
D	ate: Signature: Signature: (Name and Title)
•	
2.	Hauler of Waste (must be filled in by hauler) EPA I.D. No.:
	COMPANY NAME: Overland Trans (if applicable)
	ADDRESS: Clorkshove NJ
	Pick-up Date: 17/19/01 Truck No.: 777 Vehicle Lic. No.: 44472E
	The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify
	under penalty of perjury that the foregoing is true and correct.
	- Albai Alba
_	(Signature of authorized agent and title)
3.	Processing Facility: R3 Technologies, Inc.
	7 Steel Road East
	Morrisville, PA 19067-0847 Permit #301254
	· · · · · · · · · · · · · · · · · · ·
	Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on this date:
	1/1/2-14-01
	(Signature of authorized agent and title)
	/

R3 TECHNOLOGIES
7 STEEL ROAD EAST
MORRISVILLE, PA 19067-0847
215-428.1700

Ticket:6408 Date:12/14/01 Time In:01:35 PM

Time Out:01:35 PM Manifest#:55505

AN: LANGAN ENGINEERING

Tob: LAN0111010A4

Hauler: OVERLAND TRANSPORT

ruck: ovl 595.

Gross: 76680 Tare: 23180

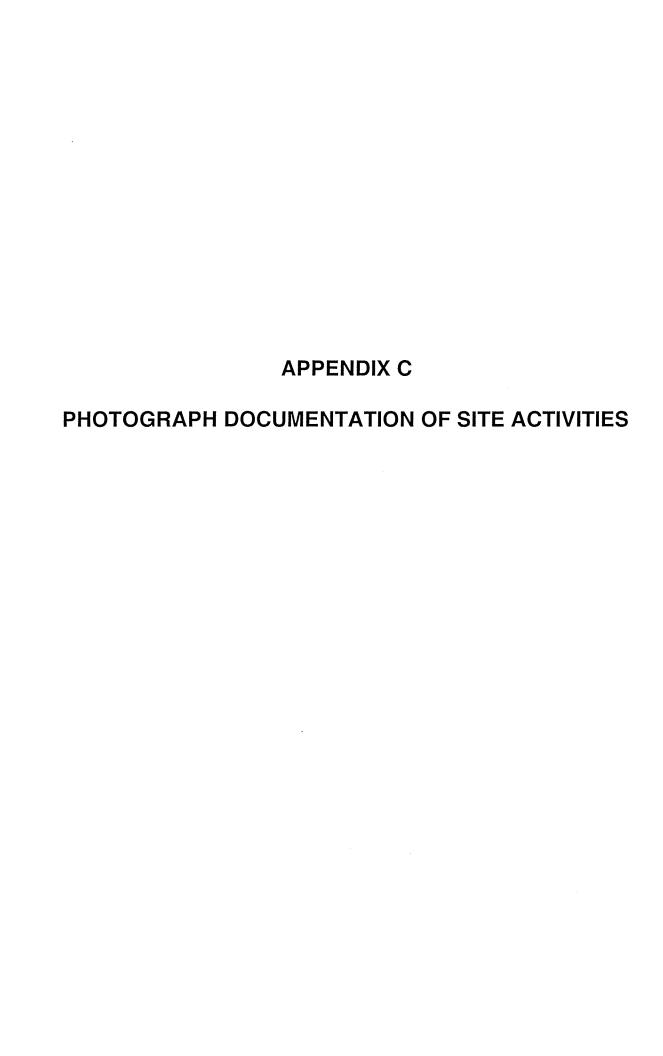
Net: 53500 Lbs. 26.75 Tons

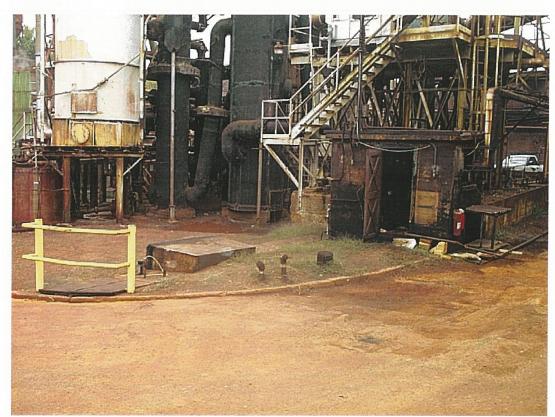
roduct: NO. 4 OIL

1 1 647 646.4

R3 Technologies, Inc. • 7 Steel Road East • P.O. Box 847 • Morrisville, PA 19067-0847 • Phone: (215) 428-1700

1. EPA I.D. No., Generator of Waste:	
Company Name: (Print or Type).	enerte Almerta Inc
5 Pick-up Address:	Worth Easter fai
	Fax Number:
Waste Stream Identification:	presents a non-hazardous waste as per EPA and PA D.E.P. regulations.
Tons; Cubic Yards:	Colori (Specify)
Waste Type: #C7 Policeus	M COMSAM DOIL
Special Handling Instructions, if any:	NONG NEW YORK
PROFILE / WASTE STREAM I.D. NUMB	BER: 144100/1/0/0443
This is to certify that the above named materials are pro	perly classified, described, packaged, marked, and labeled, and are in proper and federal law. The wastes were consigned to the transporter named. I
certify that the foregoing is true and correct to the best of	of my knowledge
Date: /2/14/0/ Signatu	ire Lake Kowell Engineery Mary
2. Hauler of Waste (must be filled in by hauler) EPA J.	D. No.;
+ COMPANY NAME:	OVER CLUD TRADS
ADDRESS:	CLORKSBURG NT
Pick-up Date: 12-14-01 Truck No.:	575 Vehicle Lic. No.: ADIXX / NS
The above described waste was picked up and have under penalty of perjury that the foregoing is true as	d by me to the disposal facility named below and was accepted. I certify degreet.
- Vaul NC	6
V	atuse of authorized agent and title)
3. Processing Facility: R3 Technologies, Inc. 7 Steel Road East Morrisville, PA 19067-0 Permit #301254	0847
Waste subject to this manifest was delivered by the a hauler to this disposal facility and accepted on this disposal facility accepted on the disposal facility and accepted on the disposal facility accepted on t	late:
(Sign	nature of authorized agent and title)





Surface view of two 15,000-gallon No. 4 heating oil UST area.



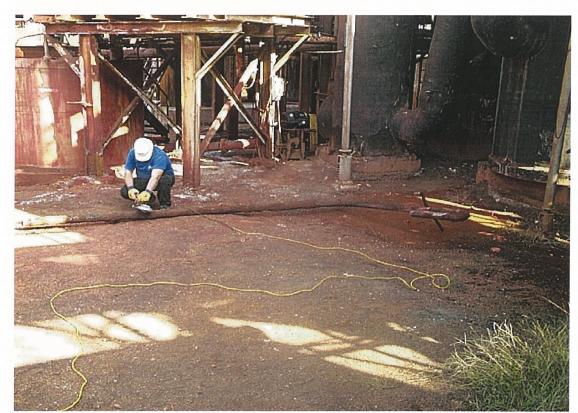
Valve and piping vault associated with two 15,000-gallon UST's and two remote fill ports.



Fuel oil pump house associated with the two 15,000-gallon UST's.



Initiation of excavation over the two 15,000-gallon UST's.



Vent pipe removal activities.



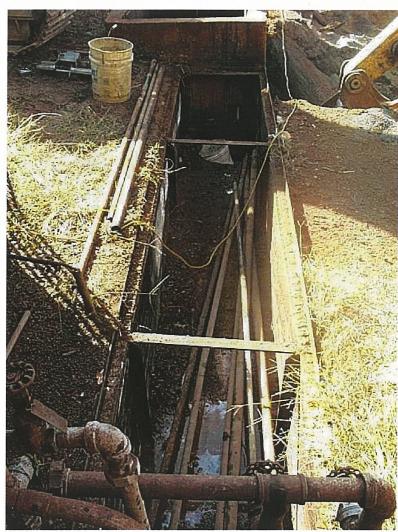
Vacuum truck pumping contents of the two 15,000-gallon UST's.



Piping removal from pipe trench.



Exposed 15,000-gallon No. 4 fuel oil UST's (UST No. 6).



Piping removal from the pipe trench that leads from the pump house to the valve vault.



Clean fill material removal above and aside of the two UST's



Former valve vault and pipe trench location.



Petroleum impacted fill material removal.



No. 4 fuel oil free product on groundwater surface.



Exposed UST's ready for removal.



Removal of the UST's with a seventy-ton crane.



Removal of a 15,000-gallon UST from the excavation.



Maneuvering the UST's for loading on to trailers.



Placement of the UST on the truck for transport.



Removal of free product from groundwater surface.



Removal of free product from groundwater surface.





Installation of two 4-inch diameter well points for free product monitoring and extraction.



Load out of petroleum impacted soil for transport to disposal facility.



Load out of petroleum impacted soil for transport to disposal facility.



Load out of petroleum impacted soil for transport to disposal facility.

APPENDIX D COMPLETE LABORATORY DATA PACKAGES



28 S. Hanover Street Pottstown, PA 19464 610/327-0880

10/29/01

rn- LANGAN ENG. & ENVIRON. SERV.INC GEORGETOWN CROSSING SUITE 225 3655 ROUTE 202

DOYLESTOWN PA 18901

215-348-7101 FAX 215-348-7125

NJSRPID#:

Client Project #: 3576201

Client Project Name: ELEMENTIS-EASTON PA

Wastex Sample ID: AC33002 Collection Date:

Sample Collector CLIENT

10/12/01

Collection Time:

14:10

Field Sample ID: PE-2 3.5-4'

Submittal Date: Matrix:

10/19/01 SO

Submittal Time: 19:15 GRAB Sample Type:

Time Method Date Analyzed Analyzed Reference MDL Analyst

10:25

Parameter Parameter	Result	Units	MDL	Analyst	Analyze	d Analy.	zed Reference
Oil, Fuel (Nos.4,5,6) Se	mivols.						
Fluorene	<73	ug/kg	73	SS	10/25/01	17:00	SW846 8270C
Anihracene	<73	ug/kg	73	SS	10/25/01	17:00	SW846 8270C
Phenanthrene	<73	ug/kg	73	SS	10/25/01	17:00	SW846 8270C
	77	ug/kg	73	SS	10/25/01	17:00	SW846 8270C
Pyrene Benzo(a)anthracene	< 73	ug/kg	73	SS	10/25/01	17:00	SW846 8270C
	110	ug/kg	73	SS	10/25/01	17:00	SW846 8270C
Chyrsene Benzo(b)fluorenthene	<73	ug/kg	73	\$8	10/25/01	17:00	SW846 8270C
	<73	ug/kg	73	SS	10/25/01	17:00	SW846 8270C
Benzo(a)pyrene Benzo(g,h,i)perylene	< 73	ug/kg	73	SS	10/25/01	17:00	SW846 8270C
Oil, Fuel (Nos. 4,5,6) V	olatiles						
Benzene	<210	ug/kg	210	LM	10/26/01	20:12	SW846 8260B
Naphthalene	<320	ug/kg	320	LM	10/26/01	20:12	SW846 8260B

Released by:

90.6

10/22/01

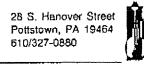
AD

0.01

EPA 160.3

% Solids Comments:





10/29/01

I'm LANGAN ENG. & ENVIRON. SERV.INC **GEORGETOWN CROSSING SUITE 225** 3655 ROUTE 202

DOYLESTOWN PA 18901

Wastex Sample ID: AC33006

Field Sample ID: PE-3 9.5-10'

215-348-7101 FAX 215-348-7125

NJSRPID#:

Client Project #: 3576201

Client Project Name: ELEMENTIS-EASTON PA

Collection Date: 10/18/01

Sample Collector CLIENT 10/19/01

Submittal Date: Matrix: SO Submittal Time: 19:15

Collection Time:

11:30

Sample Type:

GRAB

Parameter	Result	Units	MDL	Analyst	Date Analyze	Tim d Analya	e Method zed Reference
Oil, Fuel (Nos.4,5,6) Semivols							
Fluorene	<78	ug/kg	78	SS	10/25/01	15:37	SW846 8270C
Anthracene	<78	ug/kg	78	88	10/25/01	15:37	SW846 8270C
Phenanthrene	<78	ug/kg	78	SS	10/25/01	15:37	SW846 8270C
Pyrene	<78	ug/kg	78	SS	10/25/01	15:37	SW846 8270C
Benzo(a)anthracene	<78	ug/kg	78	\$S	10/25/01	15:37	SW846 8270C
Chyrsene	<78	ug/kg	78	88	10/25/01	15:37	SW846 8270C
Berrzo(b)fluoranthene	<78	ugi/kg	78	SS	10/25/01	15:37	SW846 827DC
Benzo(a)pyrene	<78	ug/kg	78	SS	10/25/01	15:37	SW846 8270C
Benzo(g,h,i)perylene	<78	ug/kg	78	SS	10/25/01	15:37	SW846 8270C
Oil, Fuel (Nos. 4,5,6) Volat	îles				•		
Benzene	<220	ug/kg	220	LM	10/26/01	21:00	SW846 8260B
Naphthalene	<330	ug/kg	330	LM	10/26/01	21:00	SW846 8260B
% Solids	85.1	%	0.01	AD	10/22/01	10:25	EPA 160.3

Released by:	- //NG
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Comments:



To: LANGAN ENG. & ENVIRON, SERV.INC



10/29/01

GEORGETOWN CROSSING SUITE 225 NJSRPID #: 3655 ROUTE 202 Client Project #: 3576201 DOYLESTOWN PA 18901 Client Project Name: ELEMENTIS-EASTON PA 215-348-7101 FAX 215-348-7125 Collection Time: Wastex Sample ID: AC33007 Collection Date: 10/18/01 11:50 Field Sample ID: PE-4 9.5-10' Sample Collector CLIENT Submittal Date: 10/19/01 Submittal Time: 19:15 Matrix: SO Sample Type: GRAB Time Method Date Result Units MDL Analyst **Parameter** Analyzed Analyzed Reference -Oil, Fuel (Nos.4,5,6) Semivols. 10/25/01 <79 uq/kg 79 SS 16:04 SW846 8270C Fluorene 79 Anthracene <79 ug/kg SS 10/25/01 16:04 SW846 8270C Phenanthrene <79 ug/kg 79 SS 10/25/01 16:04 SW846 8270C ug/kg 79 SS 10/25/01 16:04 5W846 8270C Pyrene <79 79 10/25/01 16:04 SW846 8270C Benzo(a)anthracene <79 uq/kq SS Chyrsene **₹79** ug/kg 79 SS 10/25/01 16:04 SW846 8270C 79 10/25/01 16:04 SW846 8270C Bernzo(b)fluoranthene <79 ug/kg SS 79 SS 10/25/01 16:04 SW846 8270C Benzo(a)pyrene <**79** uq/kq Benzo(g,h,i)perylene <79 ug/kg 79 SS 10/25/01 16:04 SW846 8270C Oil, Fuel (Nos. 4,5,6) Volatiles 240 LM 10/26/01 23:25 SW846 8260B Benzene <240 ug/kg 350 10/26/01 23:25 SW846 8260B Naphthalene <350 ug/kg LM **EPA 160.3** % 0.01 % Solids 84.2 AD 10/22/01 10:25 Comments:

Released by:



10/29/01

TA: LANGAN ENG. & ENVIRON. SERV.INC NJSRPID#: **GEORGETOWN CROSSING SUITE 225** Client Project #: 3576201 3655 ROUTE 202 DOYLESTOWN PA 18901 Client Project Name: ELEMENTIS-EASTON PA 215-348-7101 FAX 215-348-7125 Collection Time: 13:10 **Collection Date:** 10/18/01 Wastex Sample ID: AC33008 Field Sample ID: PE-5 9-9.5' Sample Collector CLIENT Submittal Time: 19:15 Submittal Date: 10/19/01 GRAB Sample Type: SO Matrix: Method Time Date MDL Analyst Units Result Analyzed Analyzed Reference **Parameter** Dil, Fuel (Nos.4,5,6) Semivols. 16:32 SW846 8270C 10/25/01 83 SS <83 ug/kg Fluorene 16:32 SW846 8270C 10/25/01 <83 ug/kg 83 \$5 Anthracene 16:32 SW846 8270C 83 SS 10/25/01 Phenanthrene <83 ug/kg 16:32 SW846 8270C 10/25/01 83 SS uq/kg <83 Pyrene SW846 8270C 10/25/01 16:32 83 SS ug/kg <83 Benzo(a)anthracene SW846 8270C 83 SS 10/25/01 16:32 ug/kg <83 Chyrsene 16:32 SW846 8270C SS 10/25/01 <83 ug/kg 83 Benzo(b)fluoranthene 10/25/01 SW846 8270C 16:32 83 SS <83 ug/kg Benzo(a)pyrene 16:32 SW846 8270C 83 SS 10/25/01 <83 up/kg Benzo(g,h,i)perylene Oil. Fuel (Nos. 4,5,6) Volatiles 0:13 SW846 8260B 240 LM 10/27/01 <240 uq/kq Benzene SW846 8260B 0:13 10/27/01 ug/kg 350 LM Naphthalene <350 EPA 160.3 10:25 ΑĎ 10/22/01 % 0.01 % Solids 79.7 Comments:



TA: LANGAN ENG. & ENVIRON. SERV.INC

28 S. Harrover Street Pottstown, PA 19464 610/327-0880

10/29/01

GEORGETOWN CROSSING SUITE 225 NJSRPID#: Client Project #: 3576201 3655 ROUTE 202 DOYLESTOWN PA 18901 Client Project Name: ELEMENTIS-EASTON PA 215-348-7101 FAX 215-348-7125 Collection Time: 14:40 Wastex Sample ID: AC33011 Collection Date: 10/19/01 Field Sample ID: PE-6 7-7.5' Sample Collector CLIENT Submittal Time: 19:15 Submittal Date: 10/19/01 Sample Type: **GRAB** SO Matrix: Time Method Date MDL Analyst Result Units **Parameter** Analyzed Analyzed Reference Oil, Fuel (Nos.4,5,6) Semivols. 10/25/01 17:27 SW846 8270C ug/kg 790 SS 2600 Fluorene SW846 8270C uq/kq 790 SS 10/25/01 17:27 **<790** Anthracene SW846 8270C 790 10/25/01 17:27 Phenanthrene 5500 uq/kg SS 17:27 SW846 8270C SS 10/25/01 uq/kg 790 1200 Pyrene SW846 8270C 10/25/01 17:27 Benzo(a)anthracene <790 ug/kg 790 SS SW846 8270C ug/kg 790 SS 10/25/01 17:27 1000 Chyrsene 10/25/01 17:27 SW846 8270C Benzo(b)fluoranthene 790 SS <790 ug/kg 790 10/25/01 17:27 SW846 8270C SS <790 ug/kg Benzo(a)pyrene 17:27 SW846 8270C <790 790 SS 10/25/01 ug/kg Benzo(g,h,i)perylene Oil. Fuel (Nos. 4,5,6) Volatiles SW846 8260B 310 LM 10/27/01 1:01 <310 ug/kg Benzene 1:01 SW846 8260B <470 ug/kg 470 LM 10/27/01 Naphthalene **EPA 160.3** 10/22/01 10:25 % 0.01 AD % Solids 83.6 Comments:

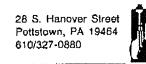


To LANGAN ENG. & ENVIRON. SERV.INC 10/29/01 NJSRPID#: GEORGETOWN CROSSING SUITE 225 Client Project #: 3576201 3655 ROUTE 202 DOYLESTOWN PA 18901 Client Project Name: ELEMENTIS-EASTON PA 215-348-7101 FAX 215-348-7125 Wastex Sample ID: AC33012 Collection Time: Collection Date: 10/19/01 14:50 Field Sample ID: PE-7 7-7.5' Sample Collector CLIENT Submittal Date: 10/19/01 Submittal Time: 19:15 Matrix: SO Sample Type: **GRAB** Time Method Date Parameter Result Units MDL Analyst Analyzed Analyzed Reference Oil, Fuel (Nos.4,5,6) Semivols. 4100 ug/kg 790 SS 10/25/01 17:55 SW846 8270C Fluorene 17:55 <790 ug/kg 790 SS 10/25/01 SW846 8270C Anthracene 790 10/25/01 17:55 SW846 8270C Phenanthrene 7000 ua/ka SS 10/25/01 17:55 SW846 8270C 1200 ug/kg 790 SS Pyrene SW846 8270C 790 SS 10/25/01 17:55 Benzo(a)anthracene <790 ug/kg 790 SS 10/25/01 17:55 SW846 8270C 1100 ug/kg Chyrsene 17:55 SW846 8270C 790 SS 10/25/01 Benzo(b)fluoranthene <790 uq/kq 790 SS 10/25/01 17:55 SW846 8270C <790 ug/kg Benzo(a)pyrene 17:55 SW846 8270C <790 790 SS 10/25/01 Benzo(g,h,i)perylene uq/kq Oil, Fuel (Nos. 4,5,6) Volatiles 230 LM 10/27/01 1:49 SW846 8260B Benzene <230 ug/kg 10/27/01 1:49 SW846 8260B 345 LM Naphthalene 1700 ug/kg % 0.01 AD 10/22/01 10:25 EPA 160.3 % Solids 84.1 Comments:



To Langan eng. & Environ. Serv.inc 10/29/01 **GEORGETOWN CROSSING SUITE 225** NJSRPID#: 3655 ROUTE 202 Client Project #: 3576201 DOYLESTOWN PA 18901 Client Project Name: ELEMENTIS-EASTON PA 215-348-7101 FAX 215-348-7125 Wastex Sample ID: AC33009 Collection Date: 10/12/01 Collection Time: 0:00 Field Sample ID: TRIP BLANK Sample Collector CLIENT Submittal Date: 10/19/01 Submittal Time: 19:15 Sample Type: **GRAB** Matrix: SO Time Method Date Result MDL Analyst Parameter Units Analyzed Analyzed Reference Oil, Fuel (Nos. 4,5,6) Volatiles <230 230 10/26/01 18:35 SW846 8260B ug/kg LM Benzene <350 350 LM 10/26/01 18:35 SW846 8260B Naphthalene[®] ug/kg Comments: Released by:





11/1/01 TA: LANGAN ENG. & ENVIRON. SERV.INC **GEORGETOWN CROSSING SUITE 225** NJSRPID#: Client Project #: 3576201 3655 ROUTE 202 DOYLESTOWN PA 18901 Client Project Name: ELEMENTIS-EASTON PA 215-348-7101 FAX 215-348-7125 9:35 Wastex Sample ID: AC33003 **Collection Date:** 10/18/01 Collection Time: Field Sample ID: GW-1 Sample Collector CLIENT Submittal Date: 10/19/01 Submittal Time: 19:15 GRAB Matrix: WATE Sample Type: Method Time Date **Parameter** Result Units MDL Analyst Analyzed Analyzed Reference Oil, Fuel (Nos.4,5,6) Semivols. SW846 8270C Phenanthrene 15 ug/l 2 SS 10/25/01 13:19 2 10/25/01 13:19 SW846 8270C 3 SS Pyrene ug/I SW846 8270C 2 SS 10/25/01 13:19 Chrysene 4 ug/I Oil, Fuel (Nos.4,5,6) Volatiles 4:26 SW846 8260B Benzene <2 ug/L 2 LM 10/31/01 4:26 SW846 8260B 3 10/31/01 Naphlhalene 22 uq/L LM Comments: //Wo



To LANGAN ENG. & ENVIRON, SERV.INC

28 S. Hanover Street Pottstown, PA 19464 610/327-0880

10/31/01

NJSRPID#: GEORGETOWN CROSSING SUITE 225 Client Project #: 3576201 3655 ROUTE 202 **DOYLESTOWN PA 18901** Client Project Name: ELEMENTIS-EASTON PA 215-348-7101 FAX 215-348-7125 Collection Time: 10:00 Collection Date: 10/18/01 Wastex Sample ID: AC33004 Field Sample ID: GW-2 Sample Collector CLIENT Submittal Time: 19:15 Submittal Date: 10/19/01 GRAB Matrix: WATE Sample Type: Time Method Date Result Units MDL Analyst Analyzed Analyzed Reference **Parameter** Oil, Fuel (Nos.4,5,6) Semivols. SW846 8270C 10/25/01 12:51 2 SS Phenanthrene 4 uq/l 2 10/25/01 12:51 SW846 8270C SS <2 uq/I Pyrene 10/25/01 12:51 SW846 8270C 2 SS Chrysene <2 ug/l Oil, Fuel (Nos.4,5,6) Volatiles SW846 8260B 10/30/01 19:33 2 LM Benzene <2 ug/L SW846 8260B 3 LM 10/30/01 19:33 9 ug/L Naphthalene Comments:





To: LANGAN ENG. & ENVIRON, SERV.INC									
GEORGETOWN CROSSING SUITE 225 NJSRPID # :									
3655 ROUTE 202	nt Project # : 3576201								
DOYLESTOWN PA 18901	Client Project Name: ELEMENTIS-EASTON PA								
215-348-7101 FAX 215-34	8-7125								
Mastex Sample ID: AC33005		Collection D	ate:	10/18/01	Collectio	n Time:	10.10		
Field Sample ID: FIELD BLANK		Sample Co	Rector	CLIENT	•				
East Teachers		Submittal E		10/19/01	Submitt	al Time:	19:15		
		Matrix:	or.	WATE	Sample		GRAB		
in the control of the		***************************************		• • • • • • • • • • • • • • • • • • • •	•	Time			
Parameter	Result	Units	MDL	Analyst	Date Analyze		ed Reference		
		•			Julatya	- 1 alony 2	02 110101010		
UOil, Fuel (Nos.4,5,6) Semivo)IS.								
Phenanthrene	<2	บฐ/โ	2	SS	10/25/01	12:23	SW846 8270C		
Pyrene	<2	ug/l	2	SS	10/25/01	12:23	SW846 8270C		
Chrysene	<2	ug/i	2	SS	10/25/01	12:23	SW846 8270C		
Oil, Fuel (Nos.4,5,6) Volatiles									
Benzene	<2	ug/L	2	LM	10/30/01	12:21	SW846 8260B		
Naphthalene	<3	ug/L	3	LM	10/30/01	12:21	SW846 8260B		
Comments:									
					•				
		•							
		-							
455****									



TO LANGAN ENG. & ENVIRON, SERV.INC 10/31/01 **GEORGETOWN CROSSING SUITE 225** NJSRPID#: Client Project #: 3576201 3655 ROUTE 202 DOYLESTOWN PA 18901 Client Project Name: ELEMENTIS-EASTON PA 215-348-7101 FAX 215-348-7125 Collection Time: 0:00 Wastex Sample ID: AC33010 Collection Date: 10/18/01 Field Sample ID: TRIP BLANK Sample Collector CLIENT Submittal Time: 19:15 Submittal Date: 10/19/01 Sample Type: GRAB Matrix: WATE Method Time Date Result Units MDL Analyst Parameter Analyzed Analyzed Reference Oil, Fuel (Nos.4,5,6) Volatiles SW846 8260B ⊲2 2 LM 10/30/01 13:09 uo/L Benzene 13:09 SW846 8260B 3 10/30/01 Naphihalene <3 ug/L LM Comments: Released by:



11/2/01

n Langan eng. & Environ, Serv.inc **GEORGETOWN CROSSING SUITE 225** 3655 ROUTE 202

DOYLESTOWN PA 18901

215-348-7101 FAX 215-348-7125

NJSRPID#:

Client Project #: 3576201

Client Project Name: ELEMENTIS-EASTON PA

Wastex Sample ID: AC33013

Field Sample ID: WC

10/18/01 Collection Date:

Collection Time:

14:45

Sample Collector CLIENT

10/19/01

Submittal Time: 19:15

Submittal Date: Sample Type: **GRAB** SO Matrix: Method Time Date Result Units MDL Analyst Analyzed Analyzed Reference **Parameter** PCBs (Dry Weight) 10/23/91 16:22 SW846 8082 DLB 0.30 < 0.30 ma/ka Aroclor 1016 SW846 8082 16:22 10/23/91 < 0.30 mg/kg 0.30 DLBArocior 1221 SW846 8082 DLB 10/23/91 16:22 0.30 < 0.30 mq/kg Aroclor 1232 16:22 5W846 8D82 0.30 DLB 10/23/91 < 0.30 ma/kg Aroclor 1242 SW846 8082 16:22 mg/kg 0.30 DLB 10/23/91 < 0.30 Arocior 1248 SW846 8082 10/23/91 16:22 0.30 DLB <0.30 mg/kg Aroclor 1254 16:22 SW846 8082 DLB 10/23/91 0.30 mg/kg Aroclor 1260 <0.30 SW846 7471A 10/24/01 12:35 0.5 JI C < 0.5 mg/kg Mercury (Dry Weight) Metals, Heavy (Dry Weight) SW846 6010B 10:30 1 JI.S 10/26/01 13 mg/kg Arsenic SW846 6010B 10:30 0.4 JLS 10/26/01 48.8 mq/kg Barium 10:30 SW846 6010B 10/26/01 <0.4 mg/kg 0.4 JLS Cadmium SW846 6010B 10:30 10/26/01 0.4 JLS Chromium 37.2 mg/kg SW846 6010B 10:30 10/26/01 1 JLS mg/kg 21 Lead SW846 6010B 10/26/01 10:30 1 JLS **<**1 mq/kg Selenium SW846 6010B 10:30 0.6JLS 10/26/01 < 0.6 mg/kg Silver SW846 6010B 10:30 JLS 10/26/01 0.4 Copper (Dry Weight) 150 mq/kq SW846 6010B JLS 10/26/01 10:30 0.6 mg/kg Nickel (Dry Weight) 24.6 SW846 6010B JLS 10/26/01 10:30 1 372 ma/ka Zinc (Dry Weight) **EPA 418.1** 10/23/01 12:00 mg/kg 10.0 DKJ 1182 Total Petro, Hydrocarb, (Dry.) 11/2/01 0:00 SW846 9020B OUT 10.0 mq/kg TOX (Dry WI) <10.0 SW846 7.3.3. 3:30 AD 10/24/01 2.5 <2.5 mg/kg Cyanide, Reactive SW846 9045C 11:00 0.10 AD 10/22/01 7.7 efinU Ha pH-Corrosivity SW846 1010 14:30 10/22/01 140 TH >140 degrees F Flash Point Ignitability



In LANGAN ENG. & ENVIRON, SERV.INC **GEORGETOWN CROSSING SUITE 225** 3655 ROUTE 202 **DOYLESTOWN PA 18901**

215-348-7101 FAX 215-348-7125

NJSRPID#:

Client Project #: 3576201

Client Project Name: ELEMENTIS-EASTON PA

Wastex Sample ID: AC33013

Field Sample ID: WC

Collection Date:

10/18/01

Collection Time:

14:45

11/2/01

Sample Collector CLIENT

Submittal Date: Matrix:

10/19/01 SO

Submittal Time: 19:15

Sample Type:

GRAB

Parameter	Result	Units	MDL	Analyst	Date Analyze	Tim d Analy	e Method zed Reference
Sulfide, Reactive	60.1	mg/kg	50.0	AD	10/24/01	10:30	SW846 7.3.4.
% Solids	83.7	%	0.01	AD	10/22/01	10:25	EPA 160.3

Comments:





11/2/01 ra: Langan eng. & Environ, Serv.inc NJSRPID#: GEORGETOWN CROSSING SUITE 225 Client Project #: 3576201 3655 ROUTE 202 DOYLESTOWN PA 18901 Client Project Name: ELEMENTIS-EASTON PA 215-348-7101 FAX 215-348-7125 Collection Time: 14:45 10/18/01 Wastex Sample ID: AC33014 Collection Date: Field Sample ID: WC Sample Collector CLIENT Submittal Date: 10/19/01 Submittal Time: 19:15 **GRAB** Sample Type: SO Matrix: Method Time Date MDL Analyst Result Units Analyzed Analyzed Reference Parameter **EPA 418.1** 10/23/01 12:00 mg/kg 10.0 DKJ 1501 Total Petro, Hydrocarb, (Dry 0:00 SW846 9020B 11/2/01 10.0 OUT <10.0 mg/kg TOX (Dry Wt) EPA 160.3 10/22/01 10:25 % 0.01 AD 88.1 % Solids Comments:



10/29/01

TO LANGAN ENG. & ENVIRON, SERV.INC NJSRPID#: GEORGETOWN CROSSING SUITE 225 Client Project #: 3576201 3655 ROUTE 202 DOYLESTOWN PA 18901 Client Project Name: ELEMENTIS-EASTON PA 215-348-7101 FAX 215-348-7125 Collection Date: 10/12/01 Collection Time: 13:10 Wastex Sample ID: AC33001 Field Sample ID: PE-1 3.5-4' Sample Collector CLIENT Submittal Time: 19:15 Submittal Date: 10/19/01 Sample Type: GRAB SO Matrix: Method Time Date Result Units MDL Analyst Analyzed Analyzed Reference Parameter Oil, Fuel (Nos.4,5,6) Semivols. SW846 8270C 10/25/01 14:14 81 SS <81 ug/kg Fluorene 14:14 SW846 8270C 81 SS 10/25/01 <81 ug/kg Anthracene SW846 8270C 14:14 10/25/01 ug/kg 81 SS Phenanihrene <81 SW846 8270C 14:14 10/25/01 81 SS <81 uq/kg **Pyrene** 10/25/01 14:14 SW846 8270C SS 81 ug/kg Benzo(a)anthracene <81 14:14 SW846 8270C 10/25/01 ug/kg 81 SS <81 Chyrsene 14:14 SW846 8270C 10/25/01 81 SS Benzo(b)fluoranthene <81 ug/kg SW846 8270C 10/25/01 14:14 SS 81 <81 ug/kg Benzo(a)pyrene 14:14 SW846 8270C 81 SS 10/25/01 ug/kg <81 Benzo(g,h,i)perylene Oil, Fuel (Nos. 4,5,6) Volatiles 10/26/01 19:24 SW846 8260B 240 LM <240 uq/kq Benzene SW846 8260B 10/26/01 19:24 360 LM <360 ug/kg Naphthalene EPA 160.3 10/22/01 10:25 % 0.01 AD 82.4 % Solids Comments: